ARCHITECTVRE
THE PROFESSIONAL ARCHITECTURAL MONTHLY

VOL. XL DECEMBER, 1919 NO. 6

What the Huns Have Done for French Art

By A. Kingsley Porter

ILLUSTRATIONS FROM PHOTOGRAPHS BY MRS. PORTER

DURING the months of armistice the smoke has cleared from the battle-fields, so that it is now possible to see, quite accurately, the France that the Germans have left. At least as far as regards art, but few details are still blurred. It is true that portable objects mourned as lost—for example, the superb Madonna of Urcel—are even yet occasionally coming to light. There is room for hope that similarly other statues and paintings now counted as missing may, after all, prove to be safe. But uncertainty is possible in regard to only a very few movable works. What the Germans have destroyed is only too evident. The loss brings increasing heartache as the excitement of the first news yields to sad custom. In addition to the ruins themselves a new source of information is now beginning to be available in the form of German publications. These documents are of extraordinary interest, and will surely be among the important exhibits for historians of the war.

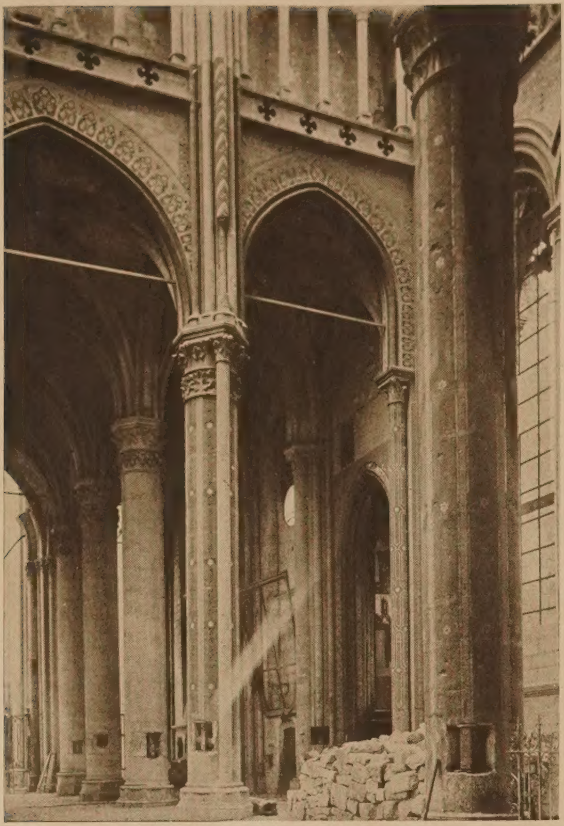
Azincourt (Oise) Virgin of the sixteenth century in wood. The statue excavated by the French Government has now been sent back uninjured to the ruined church.

The most striking fact that results from the evidence is the danger of making broad statements. The truth is that the Germans acted very differently at different times and in different places. They displayed no such consistent order nor system as they have been credited with in the imagination of their enemies. They generally destroyed and pillaged and stole. Occasionally they protected works of art with remarkable perspicacity. They were at times capable of acts of chivalry. Even where their intentions were apparently of the best, they often made the stupidest of mistakes. Like other human beings acting under the stress of excitement, they were apt to throw the mirrors out of the window and carry the pillows down-stairs. And what in one place they saved with care, they elsewhere wantonly destroyed.

It is unnecessary to recall that portions of the French soil occupied by the Germans were among the districts of Europe most rich in art. Not only the great cathedrals and abbeys, but even the country churches of the Ile-de-France are commonly masterpieces of Romanesque or Gothic design. Their beauty and historical importance have long been recognized. They have, moreover, also another no less interesting aspect, one which has only recently come to be appreciated, but which must be especially borne in mind in connection with the German depredations. These rural churches of the Ile-de-France were also museums. They contained collections of capital significance. For the objects of art were (except those added during the last half century) genuine; and by genuine I mean not only that they were free from modern falsification but that they fulfilled the primary requisite of a real work of art in that they had been created with joy and were capable of communicating joy. The objects were, besides, infinitely more valuable because indigenous. Thus the student was never in doubt as to their provenance; and, much more important, they gained the immense advantage of always remaining in their native surroundings. A true work of art inevitably loses when it is torn from the spot in which it was made and for which it was made. And these were singularly harmonious with the lovely architecture in which they were placed.

Nor does the significance of the collections in French country churches end here. Art that is art springs spontaneously from the roots of the people. It is something which is created by an irresistible and instinctive impulse. And it is that sacred yearning which permeates every stone and every accessory of the French rural church. We cannot have the great art unless we have common art. The country churches prove that in France until the nineteenth century—even in those periods of the *ancien régime* we are wont to think most aristocratic—art was not exclusive, but belonged to the people, formed part of the national heritage. The royal cabinetmakers of Louis XV at Versailles hardly produced more exquisitely dainty woodwork than the altar of the simple little country church at Serches. By this token of being in the blood of the people, rather perhaps than by the patronage of kings and nobles, the French art of the eighteenth and even of the seventeenth centuries was great.

Until the coming of the Germans, therefore, nearly every village of the Ile-de-France contained its church, and in this church the centuries that have passed had laid, each

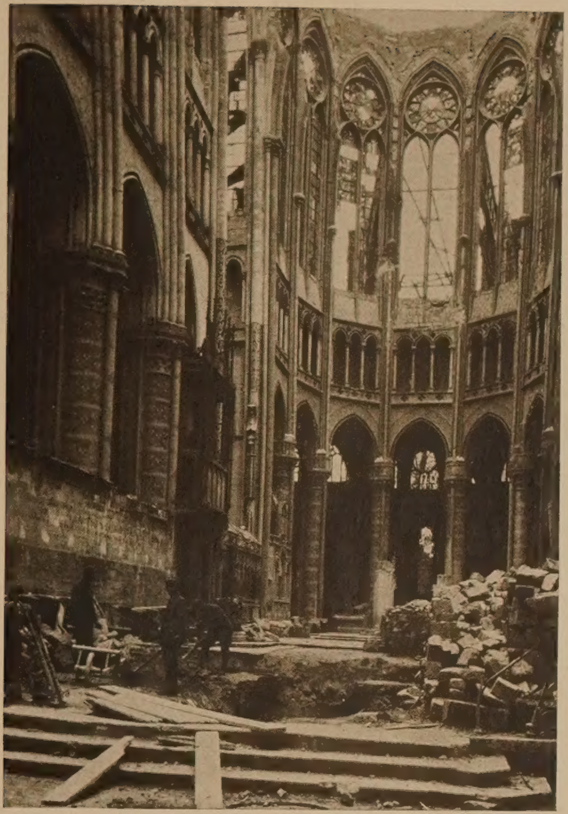


St.-Quentin (Aisne), April 23, 1919. Showing piers drilled for mine by Germans. To the right the frame of a painting which has been cut out and carried away.

at the foot of the altar, its moment of vision. The exalted thoughts of the past were there gathered together, a history of the sublimity of man. There is no form of art, no expression of human aspiration toward beauty which has not contributed to that synthesis which is the rural church of France—a synthesis smaller in scale, but not always inferior in quality to that of the great cathedrals. The collections are extraordinarily rich whether from the point of view of quality, variety, or quantity. You will find baptismal fonts, Romanesque, Gothic, Flamboyant, and Renaissance; altars and reredoses of the sixteenth, seventeenth, and eighteenth centuries, with statues and reliefs in polychrome, stone or wood or marble; jubés crowded with carvings and sculptures; Louis XIV lecturns with heraldic eagles spreading their gorgeous wings of brightly colored wood; other lecturns of wrought iron of rococo design; pulpits of the seventeenth century incredibly carved and bearing the signature of the maker, with the date in an out-of-the-way corner, and which, perhaps for long centuries, no one but you has noticed; organ-cases of similar workmanship in the caryatids of which you recognize the hand of the same artist; doors of carved wood, superb in design, with the original hardware of the fourteenth century; "poûtres-de-gloire," beams running across the church between the choir and the nave, richly carved with statues and reliefs, superbly colored; rood-screens; holy-water basins of curious and exquisite workmanship; holy-water pails of bronze of the sixteenth century; candlesticks of all periods and styles, some even Gothic; glass chandeliers of the eighteenth century, jingling and dangling; processional crosses, enamelled with Gothic enamels; crucifixes of wood, of bronze, and of ivory; vestments of ancient stuffs, chasubles, copes, albs, altar-cloths; rare laces; standards of the brotherhoods with sculptured images; paintings of all periods and schools, often of amazing merit; "bancs d'œuvre," or pews for the vestrymen with elaborately carved woodwork; panelling of the choir, and even of the nave, in wood sometimes with delicious rococo painted decoration; altars and confessionals; sculptures in relief often colored on doorways, capitals, and walls; statues of stone, of wood, of plaster of all epochs and styles, painted and unpainted, but never (except those made in recent times) without artistic interest; enamelled reliquaries; Limoges plaques; "bouquets" or prizes won by the societies of archers, and traditionally offered time out of mind to the local church (these "bouquets" are generally images of St. Sebastian in an unbelievable edicule of gingerbread architecture); models of ships offered by mariners to St. Nicolas; superb funeral-stones with the engraved or sculptured images of the dead—the church is sometimes paved with these magnificent documents; carved wooden roofs with dragons and peering heads; stained-glass windows, Gothic or Renaissance; frescoes of all periods from the twelfth century; Louis XV consoles; superb armchairs of the late eighteenth century; tapestries, Gothic, Beauvais, Aubusson, and Gobelin—all this and infinitely more had been lavished on the symphony of the French rural church by a past incredibly prodigal of production.

Moreover, the French church is as full of life as the modern museum is full of death. In the Louvre, for example, I am never entirely sure whether I am more exalted by the quality of the collections or depressed by their quantity. Those unending rooms of classified objects "inert and labelled" have a curious power to destroy the mood of reflection and poetry which it is the sole purpose of art to create. In such circumstances I find something of the same difficulty in enjoying, let us say, the Baldovinetti madonna, as I should in reading Plato on the Avenue de l'Opéra. A modern museum has a curious ability to destroy the thrill of even the greatest masterpiece. Our mind may tell us we are in the presence of a superb work of art, but our instinct, which only matters, is frequently, if not numbed, at least blunted. I even doubt whether the modern, more thoughtfully arranged museums are in this respect vitally superior to those of the last century. Some feeling for harmonious grouping and composition of the whole has assuredly been introduced. But by that very fact the old attic or junk-shop quality, which was not without its own charm, has been lost. There used to be a genuine pleasure in mentally sorting out the wheat from the chaff in the *salon carré* of the Louvre or the *tribuna* of the Uffizi. In the

Cathedral of Noyon, June 1, 1919. The temporary roof is seen in place.



St.-Quentin, April 23, 1919. German prisoners at work clearing the ruins.

junk-shop museum unknown masterworks, one felt, might at any time turn up in an unexpected corner, and the charmingly naïve attributions were a continual mental challenge. Modern scholarship has much curtailed the chances for exploration in the museum of to-day. Yet, save in a few exceptional cases, there still remain the self-conscious air, the general morgue-like aspect, the quantity with its attendant sense of fatigue. Scientific classification results in placing together hundreds of objects as much alike as possible, pictures, let us say, not only of the same school, but by the same artist. Any one, taken by itself, might give infinite pleasure; but *en bloc* the series is disheartening.

The modern museum also has a curious way of making works of art inaccessible. Every one knows that all museums are always closed the particular day one wishes to visit them. Every one knows how the guards always shoo one away to close up just at that precious, fruitful moment that will never return. Every one knows that the particular picture one wants to see has always just been removed for some mysterious reason. Every one knows that all galleries are always being rehung and that they will remain closed for an indefinite period. Every one knows that the serious student who wants to sketch, or, even worse, to photograph, is regarded as little better than a criminal, and that the necessary permissions and authorizations are as complicated and difficult as those surrounding passports in time of war. Every one knows that nothing arouses to so excited a pitch the suspicions and anger of the guards (always, one feels, silently hostile) as to be caught taking a note. Indeed, in moments of bitterness, I have wondered whether the principal function of museums was not to render works of art as little enjoyable and as little profitable as possible.

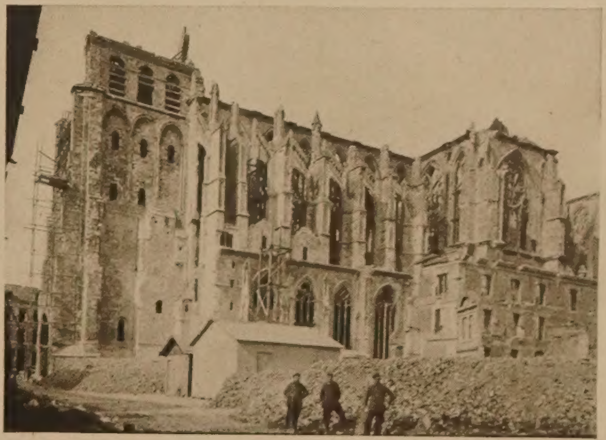
Now the French museums of the past—I mean the churches—were created by a race of keener artistic perceptions. These museums, taken together, contain a formidable quantity of objects, far more, I should suppose, than the Louvre. But instead of concentrating all these works in one city to complicate with artistic indigestion the delirium of a fever-tossed population, a wiser age left them where they belonged. No village was so small nor so removed that it did not possess its collection of art. And in each church there were just enough objects and arranged in the best way. They all composed to form one whole. Everything was in place. There was no crowding. There was none of the monotony resulting from a long series of similar objects.

The Italian churches, like the French, are museums also, and museums on the whole of equal, though perhaps not of greater, wealth; but the arrangement is carried out in a different spirit. The Italians love to secrete their masterpieces in dark and improbable places, where one has every chance of walking by without perceiving they exist. Chapels are kept locked and altar-pieces veiled. This method also has its charm. The effort of the search makes the finding seem sweeter. The English, too, are fond of keeping their cathedrals locked up, and allowing the public to enter only on payment of a substantial fee and in personally conducted parties. But in the French church nothing is hidden away. The door stands open all day long, year in, year out. One can go when one will, how one will. No obtrusive guardians intervene to spoil one's enjoyment. One can study and photograph and take notes and sketch to one's heart's content. And the same spirit presides over the arrangement of the objects in the church. They are neither hidden nor unduly obtruded. They are simply there, in their place, an integral part of their environment, speaking without ostentation and without affected modesty to whoever cares to listen.

When, therefore, the Germans invaded France they found themselves in the presence of an æsthetic delight singularly rare and subtle. The war was fought out, not only among great cathedrals of which the striking beauty was known to all the world, but among country churches of great architectural merit, filled with works of art of which the high worth was none the less real because known only to a few.

The attitude of the invaders toward this wealth of art was, as has been said, singularly vacillating. A few concrete instances will give an idea of their general behavior.

The basilica at St.-Quentin was certainly one of the great Gothic monuments of France. It was, it is true,



St.-Quentin, April 23, 1919. Boche prisoners in foreground.

situated a little out of the charmed region in which the purest mediæval architecture is found. The art stops abruptly at Laon, and its boundaries correspond closely with those of the Ile-de-France. St.-Quentin is to the north and east of this magic district. Yet the church was of exceeding interest, not only as an example of an important period that has left us but very few monuments, but on its own intrinsic merits. The double transepts (a feature almost unique in France), the superb unverticality of the nave, the wealth of space composition, the stained-glass windows, the extraordinary number of works of art contained in the building, raised it to a level attained by few cathedrals. Grim, powerful, almost forbidding in its main lines, its stern masses, on nearer approach, dissolved into dainty Rayonnant detail.

St.-Quentin, as every one knows, was taken by the Boches in 1914 and held until 1918. The Germans had, therefore, every opportunity to demonstrate here their enthusiasm for art.

They began by a notable achievement. Most of the stained-glass windows were dismounted and removed to Maubeuge before they had been irreparably damaged. In view of the battles of which St.-Quentin later became the centre, there is no doubt these superb monuments were thus saved from certain destruction.

The next step was to pillage the church thoroughly. Nearly everything movable which the French had not succeeded in getting out of harm's way was stolen. These objects, so precious in their setting, so much less valuable elsewhere (however intrinsically lovely), were torn from where they belonged and fell to the tender mercies of any one who picked them up. How many were destroyed during transportation by improper packing? Who took them? Where did they go? . . . It is extraordinary that not only objects which might seem to be movable but even those which formed part of the structure of the building disappeared. Thus a Roman inscription, built into a pillar, was torn out and carried off by some one whose love of antiquities led him to risk thus pulling the entire church in ruin about his ears. The thirteenth-century choir-grilles were similarly wrenched from their sockets and shipped to Germany, an achievement showing remarkable initiative on the part of some individual, when one considers the difficulty of transporting these weighty and unwieldy objects in time of war. Even the tombstone of La Tour was stolen. Yet the most interesting antiquity of the church, the rose-window sketched on stone, possibly by Villard de Honnecourt, and certainly in the thirteenth century, remained untouched.

The next act of these lovers of art was to prepare the complete destruction of the church. Forty-eight holes, each about eight inches broad by about eighteen inches high, were drilled in the piers. Had the obvious intention been carried out, the church would have been reduced to a heap of débris. But the mines were never exploded. Why? The church had already been ruined by the bombardment. Did an economically minded commander decide the destruction was sufficient, and conclude to save his munitions?

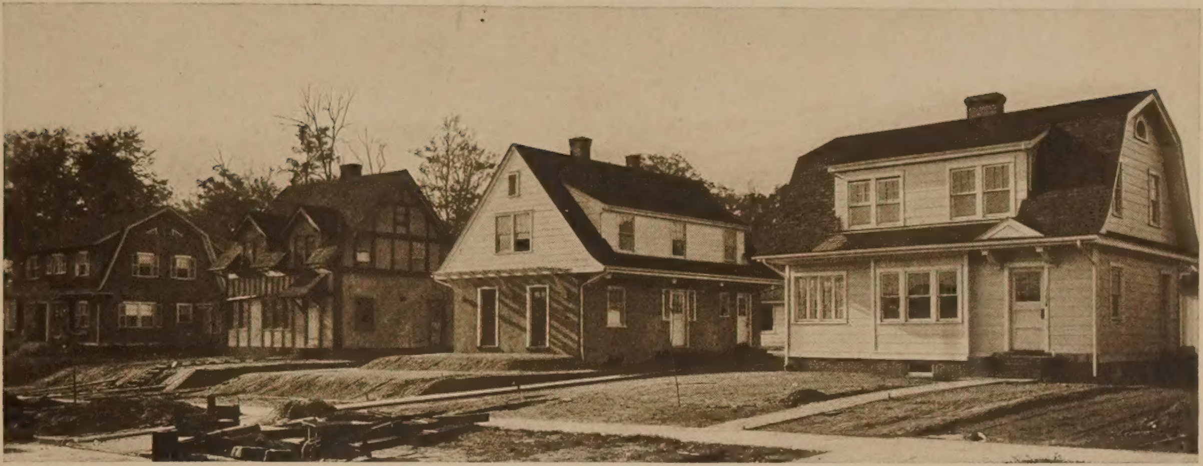
The chance, whatever it was, has preserved what is, perhaps, the most superb of all the ruins, more dramatic possibly even than Reims. The structure has been severely damaged. The vault of the nave is completely destroyed; but another vault, even loftier, that of the June sky, has taken its place. Nowhere does one feel so overwhelmed with the dizzy height, the daring of Gothic work. The beauty of true art outlives all but annihilation. The grandeur of St.-Quentin is in stronger contrast to the dreary dulness by which it is surrounded now than before.

Repositories for works of art evacuated by the German Government were established not only at Maubeuge but also at Valenciennes, Brussels, Wiesbaden, and elsewhere. These collections have been recovered in their entirety, and the objects were generally undamaged. It is infinitely to be regretted that comparatively so little was thus rescued from pillage. The glass of St.-Quentin was saved. But the glass of Parfondru, a church which was never damaged by bombardment, was dismounted with equal care, packed up and carried off. Since, at least to the extent of my knowledge, it has never been recovered; it is probable that it was appropriated by some German officer with a taste for ancient windows.

Laon. German Cemetery. Monument erected by Germans.

Firestone Park, Akron, Ohio

By John F. Suppes, Architect



A group of recently completed houses in Firestone Park.

FIRESTONE PARK is a new community centre in the south end of Akron, within the city limits, about a mile away from the main plant of The Firestone Tire & Rubber Co. This development was started three years ago, and since that time there have been about six hundred houses erected in the park. At the present time the company is erecting one hundred and twenty-five houses, of eight different plans and forty-one different exteriors, some of which are nearing completion, and to show how houses are developing, we publish a typical group.

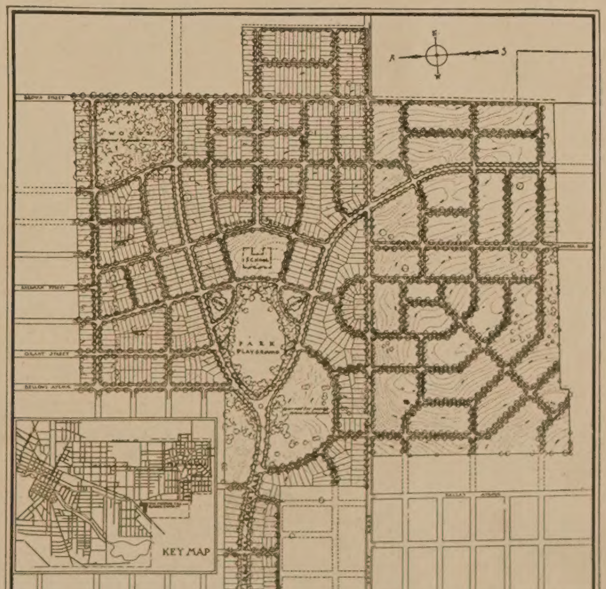
It is expected to erect from one hundred to two hundred houses every year in this park by a subsidiary company of The Firestone Tire & Rubber Co., called The Coventry Land & Improvement Co., which company erects and sells these houses to any one who will pay $500 cash, and the balance at nine-tenths of one per cent as monthly payments, covering first and second mortgages. The public at large are also permitted to erect houses of individual design subject to approval by The Coventry Land & Improvement Co., if the money for erecting building is loaned from this company. The minimum cost of houses allowable to be erected in the park is $3,500, which does not permit of any kind of a home at this time. These last one hundred and twenty-five houses are selling from $7,000 to $9,500, which high prices are brought about by the excessive cost of building operation, and again land value in Akron is quite inflated. The plots run from forty-foot to as high as one-hundred-and-twenty-foot frontage, making some of these places very desirable homes.

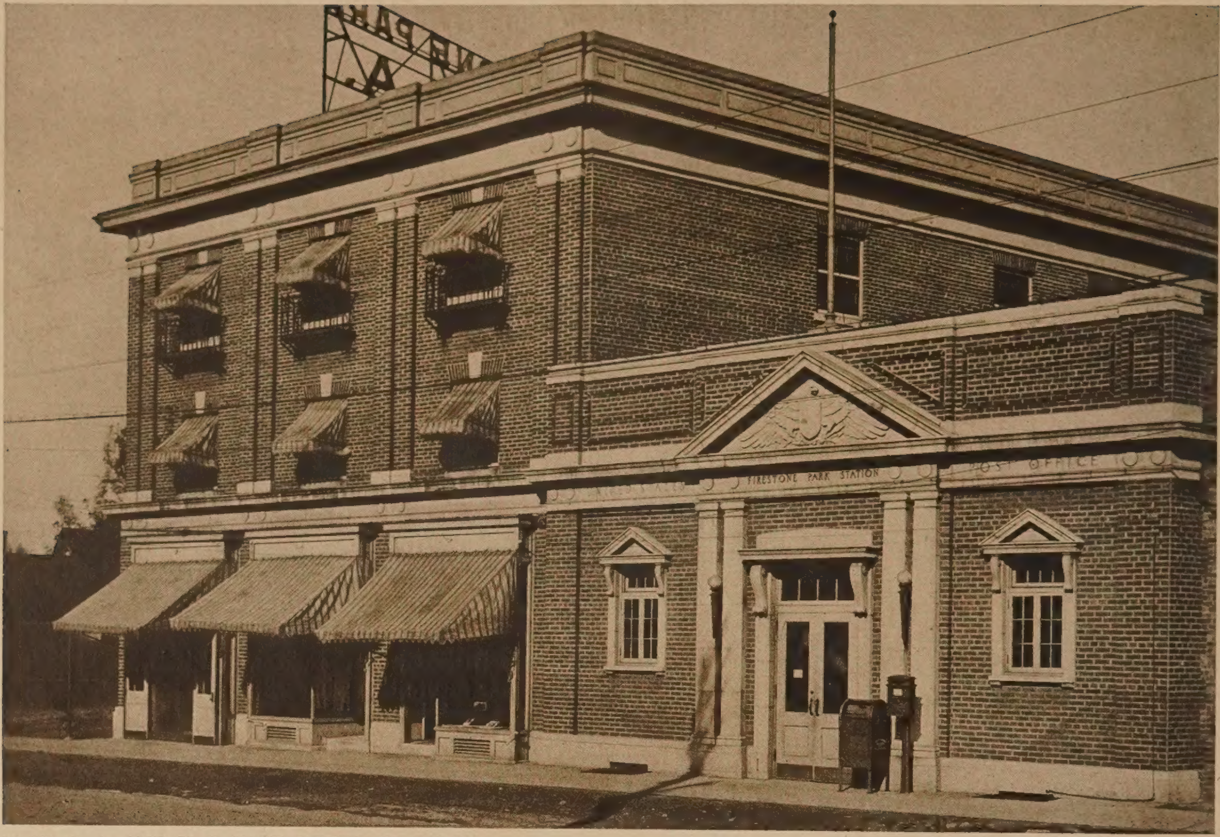
There is, of course, the business section, where store buildings are being erected, and the sketch shows the type of stores with apartments over that are now being planned for erection in the early spring. They are also preparing plans for a community hall and motion-picture building, which will be in the business section of the park.

The post-office branch, dormitory, and cafeteria of a branch of the local Y. W. C. A. was completed a little over a year ago, and both have proven a wonderful success in this section. There is a great demand for the erection of more dormitory quarters on the other side of the post-office unit, as is shown on the plans, and it is hoped that in the very near future this wing will be built.

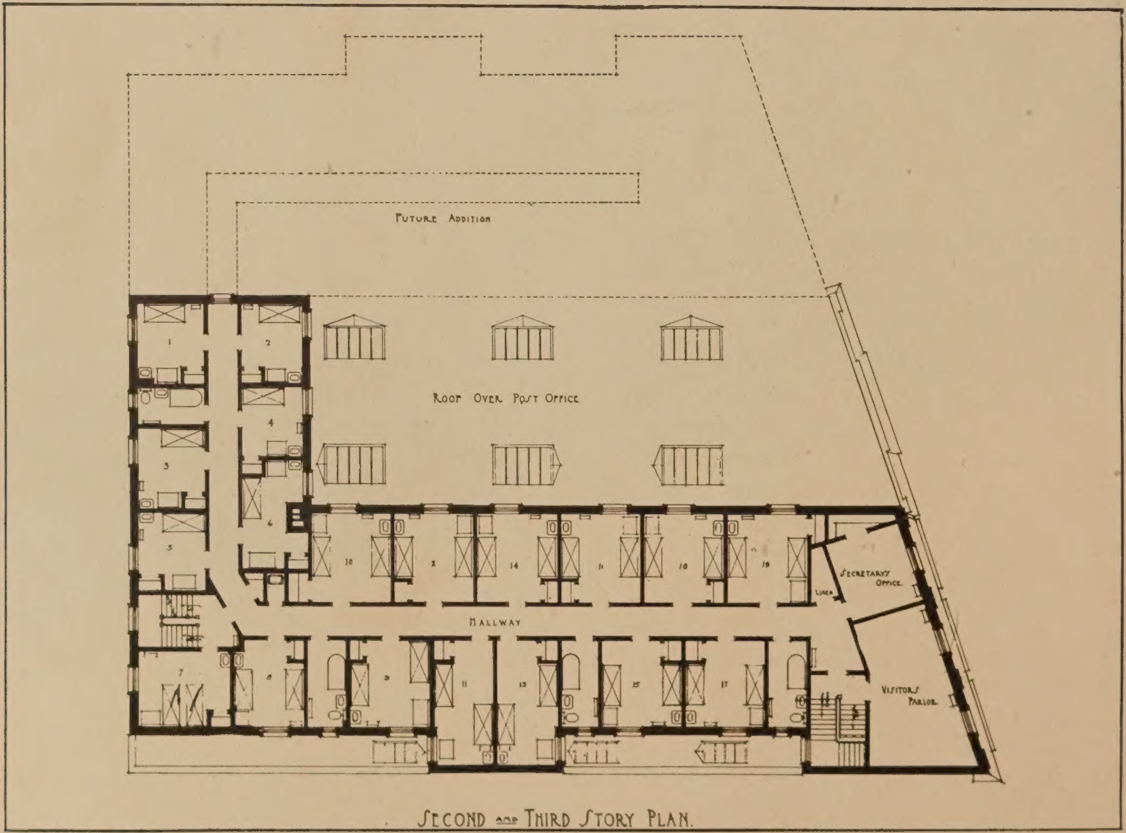
The park has a school, completed last year, which is of the very latest type. There are also temporary church buildings, and in a short time there will be two, with a possible third, good-sized church buildings erected in the park.

Firestone Park was planned by Mr. Alling S. De Forest, landscape-architect. The entire scheme is credited to Mr. H. S. Firestone. So far there has been about $5,000,000 spent in the development of the building of houses, street-paving, sidewalks, sewers, street-lighting, water, etc.





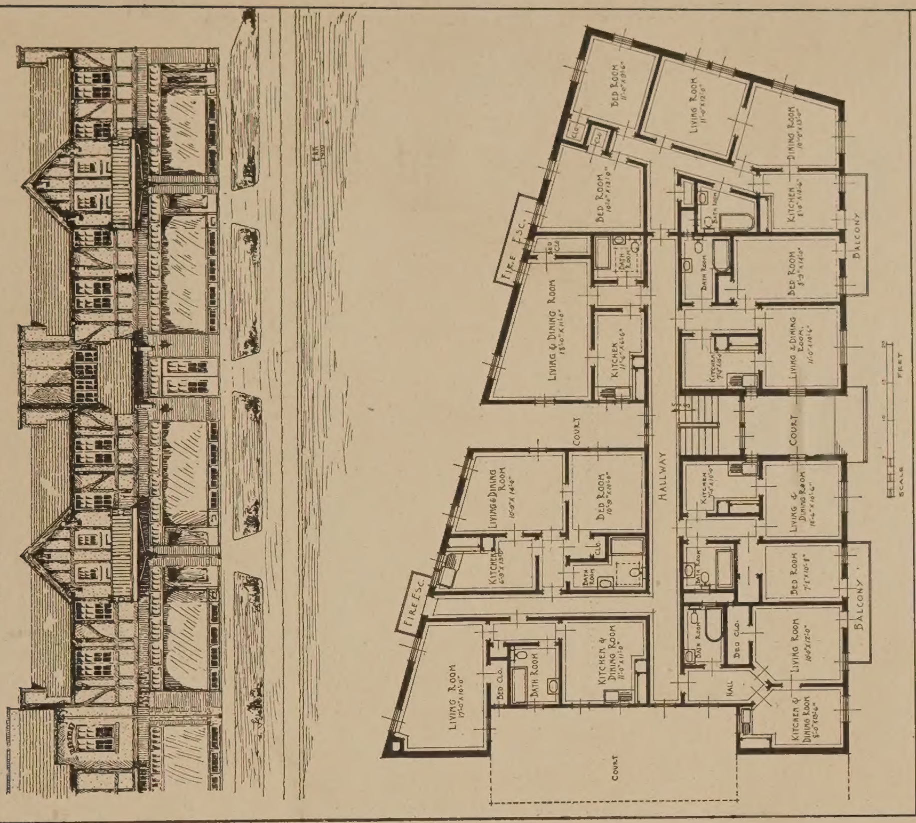
Y. W. C. A. AND U. S. POST-OFFICE BUILDING.



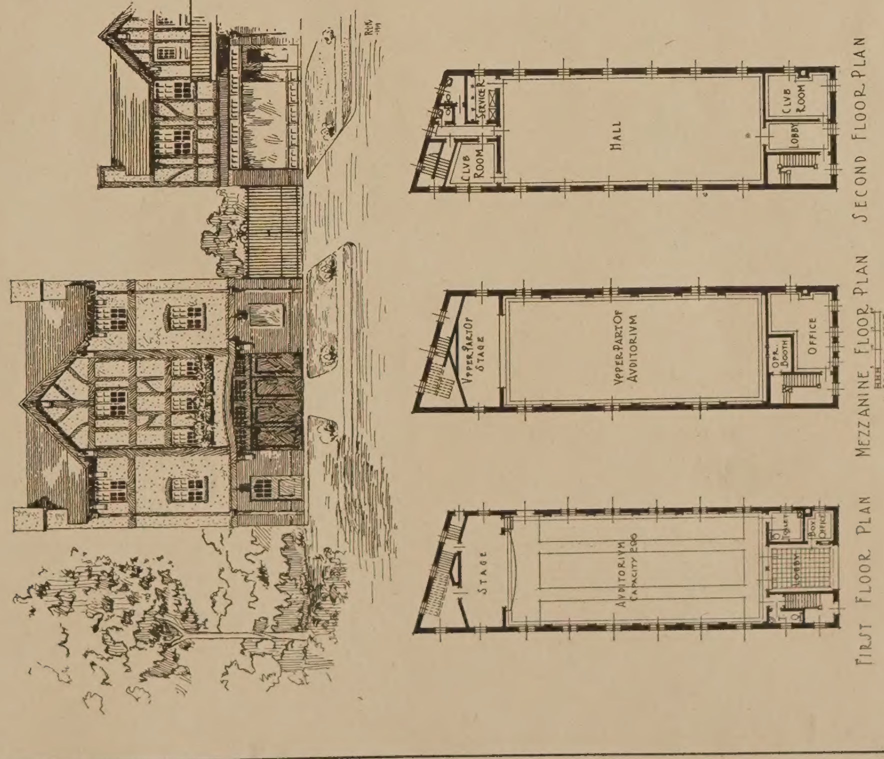
SECOND AND THIRD STORY PLAN.

BUILDINGS IN FIRESTONE PARK, AKRON, O.

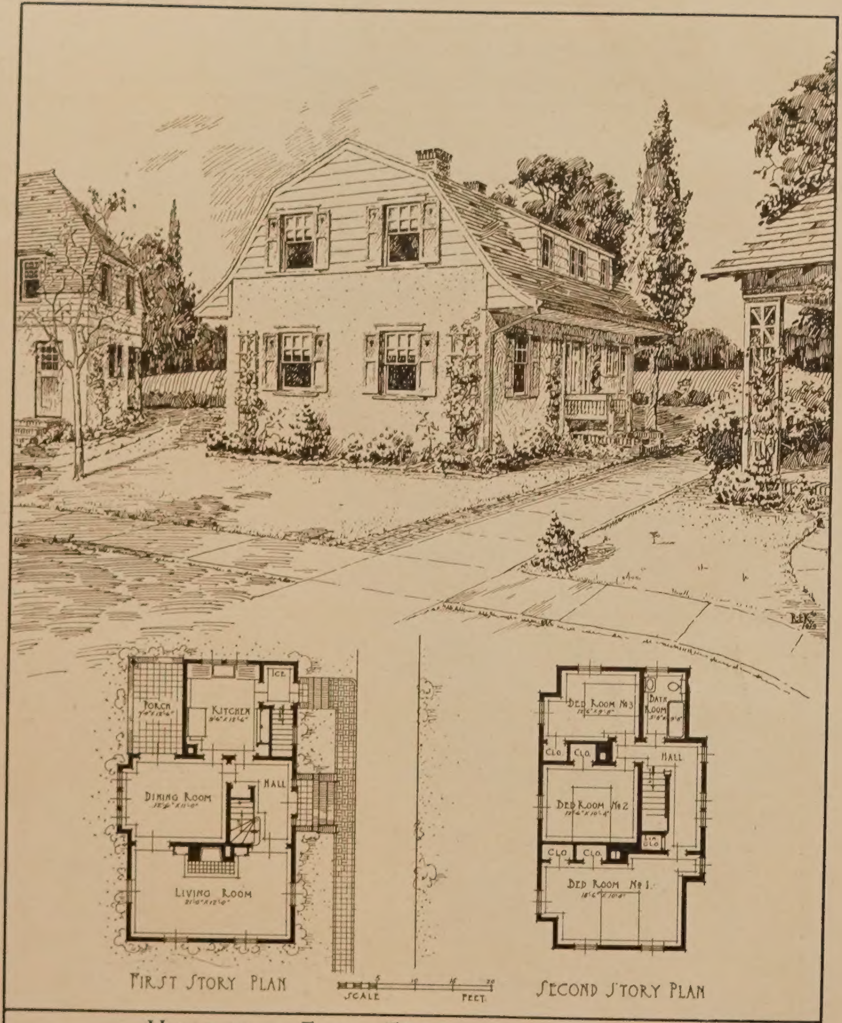
John F. Suppes, Architect.



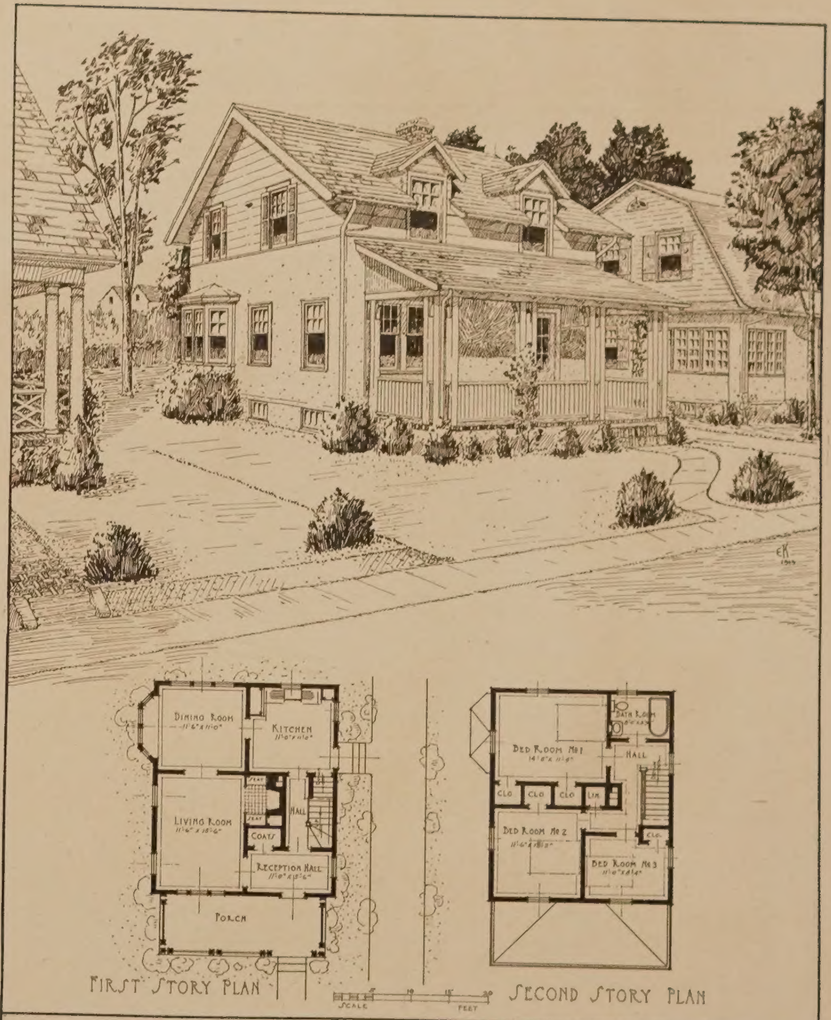
APARTMENT HOUSE FOR FIRESTONE PARK
AKRON OHIO
JOHN F. SUPPES, ARCHITECT



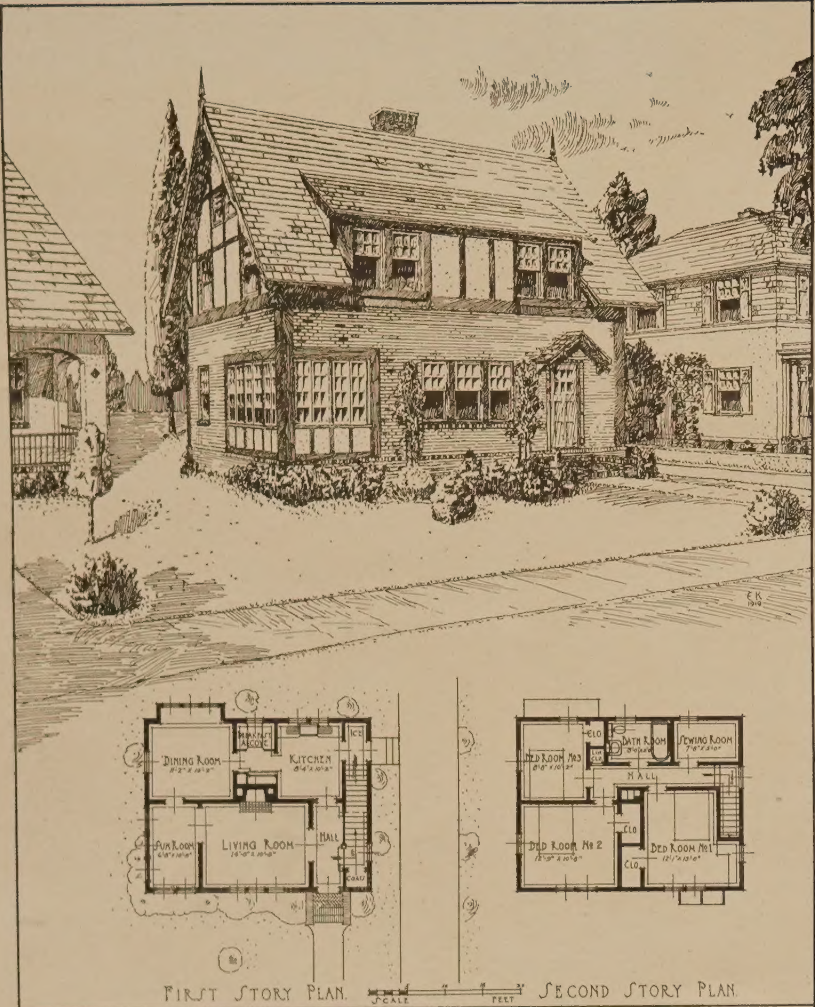
MOTION PICTURE AND COMMUNITY HALL BUILDING
FIRESTONE PARK AKRON, OHIO
JOHN F. SUPPES, ARCHITECT.



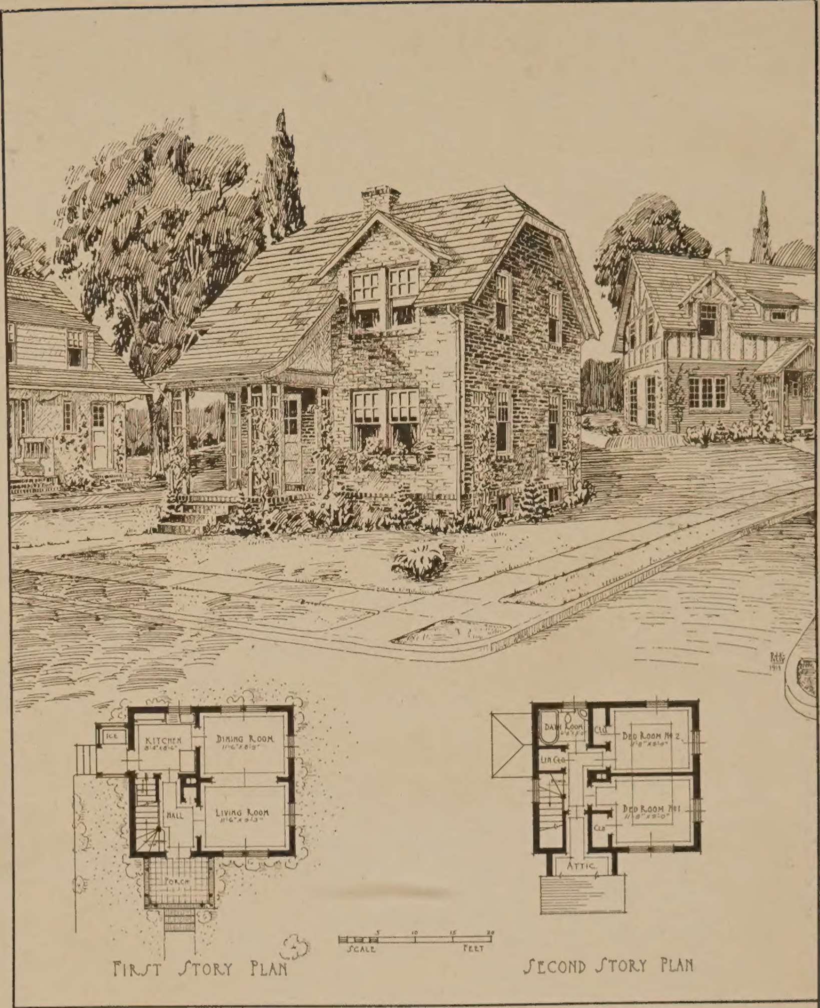
HOUSES FOR FIRESTONE PARK
AKRON OHIO
JOHN F. SUPPES ARCHITECT



HOUSES FOR FIRESTONE PARK
AKRON OHIO
JOHN F. SUPPES ARCHITECT



HOUSES FOR FIRESTONE PARK
AKRON OHIO
JOHN F. SUPPES ARCHITECT



HOUSES FOR FIRESTONE PARK
AKRON OHIO
JOHN F. SUPPES ARCHITECT

The Thirty-fifth Annual Exhibition of The Architectural League of New York

AT the building of the American Fine Arts Society, 215 West 57th Street, New York City. Last day for return of entry slips, Wednesday, December 31, 1919. Only days for the Reception of Exhibits, Wednesday and Thursday, January 14 and 15, 1920, 9 A. M. to 5 P. M. Smoker, Friday, January 30, 9 P. M. League Reception, Saturday, January 31, 3 to 6 P. M. Public Exhibition, from Sunday, February 1 to Saturday, February 28, inclusive. A special prize of $300 for the best design submitted by an Architect, Sculptor, and Mural Painter in collaboration, and the Helen Foster Barnett Prize of $50 for Sculpture. Subject for the Henry O. Avery and Collaborative Prizes:

"A WAR MEMORIAL"

An American city of about twenty-five thousand inhabitants wishes to commemorate permanently the fact that twenty of her sons lost their lives in the Great War and that one of them distinguished himself by an act of personal bravery worthy to place his name beside those of the heroes of the Civil and Revolutionary Wars.

Space for this purpose has been found at the end of the vestibule or entrance-hall of the contemplated municipal building.

This vestibule is to be twenty-five feet long by twelve feet wide and cannot exceed eighteen feet in height. The memorial is to consist of the decorative treatment of the wall at one end of this room. It should characterize the distinguished hero and should depict the nature of the action which won him fame. The names of all the twenty who gave their lives are to be incorporated, together with whatever inscriptions may be found necessary and appropriate.

No portion of the work should project more than two feet from the face of the wall.

Models to be submitted ¼ full size.

The special prize for Sculpture will be awarded on the sculpture element in this collaboration.

Models to be delivered at 215 West 57th Street, January 15, 1920.

THE HELEN FOSTER BARNETT PRIZE

The Helen Foster Barnett Prize for Sculpture, award $50, limited to statuettes, including any work under life size. Artists under 35 years of age only eligible and the prize shall not be awarded more than once to the same artist.

TO MAKE THE EXHIBITION A SUCCESS

The Committee particularly directs the attention of architects to the following statement which it makes in the hope that a clear understanding of its policy may inure to the benefit of exhibitors and to the success of the exhibition.

The effect of the exhibition as a whole is of the highest importance. The general impression made upon the visitor is stronger than that made by individual exhibits. To produce this impression it is obvious that the walls of the galleries should present an orderly and harmonious appearance. Exhibits containing large areas of white paper or having white or light-colored mounts conduce to a spotty and disorderly general effect. *Exhibitors are therefore advised that such exhibits are likely to be poorly hung or not at all;* and in case such are submitted, *the Committee reserves the right to remount, or modify the tone of the mounts of, any such accepted exhibits at the exhibitor's expense.*

Exhibitors are therefore urged to give thought and care not only to the selection of subject but to its tone, framing, and mounting. This is especially important in groups of separate units, particularly when composed of views of the same subject. Such groups should naturally be maintained, but frequently the tones, shapes, and sizes as submitted are so unmanageable that either the group must be broken up or some part of it be omitted.

Plans are particularly desirable—but unless they are well presented they may fail of acceptance.

The Committee particularly requests the submission of the work of Landscape Architects.

Remember that this exhibition should interest the Public and that the Public is strongly affected by presentation.

The Metropolitan Museum of Art—Exhibition of Modern French Art

THE exhibition was opened with a reception to members and their friends at the museum on the evening of Monday, December 15. It will be open to the public daily until February 1, inclusive.

This exhibition, which has been organized in Paris by the French Ministry of Public Instruction and the Fine Arts, with the co-operation of the artists' association known as the Triennale, will consist of contemporary French paintings, sculptures, drawings, prints, and examples of the decorative arts, all selected as representative of the French art of to-day. The interest the French authorities have taken in sending it to America may be judged from the facts that it is forwarded at the government's expense, and that it comes here under the patronage of the President of the French Republic, the Ambassador of France at Washington, the Minister of Public Instruction and Fine Arts, and the Director-General of the French Services in the United States, who has charge of its arrangements in this country.

In addition to the patrons, the French Government has named the following as an Honorary Committee of the exhibition: Paul Léon, Director of Fine Arts; Léonce Bénédite, Curator of the Luxembourg Gallery; Robert Brussel, Chief of the Service d'Etudes; Maurice Chabas, President of the Triennale; d'Esteurnelles de Constant, Director of the National Museums; Anatole le Braz, Professor at the University of Rennes; Gaston Liébert, Consul-General of France in New York; Marcel Rouffie, Inspector-General of the French Services in the United States; Marcel Knecht, and Lieutenant Cæsar Michaux, head of the Bureau of Fine Arts of the French Services.

Editorial and Other Comment

What Shall It Be?

IN New York we have been discussing, both artists and laymen, not without acerbity and some manifestation of strong personal feeling, the great question of a suitable war memorial. The Arch of Victory, under which thousands of our returning troops have marched, a temporary structure built at great cost, is passing into the hands of the dealers in second-hand building materials. The arch and its admirable sculptures will become a vague memory to the man of the street, a dim vision of a passing spectacle, a bit of mere civic scenery, a movie celebrating transient and immaterial things. To many looking at it from an angle of mere expediency, its passing will be welcomed, for in many ways it has proved a serious obstruction to traffic, and at best much of its significance and dignity was lost by its being placed among so many incongruous high buildings. The spirit of the Square and of Fifth Avenue are intensely modern, and somehow we feel that any permanent memorial, wherever it is placed, should be first of all modern in its purposes, and planned with an idea of usefulness.

We are a far cry from the ideals of a Roman triumph, from the celebration of the individual leader, whose personal pride and sense of power were paramount to the nation. What to us signify the arches of Constantine and Titus? Imperialism, if looked at with even a modicum of historical background, and imperialism is the thing the world has been fighting for four long years. Artistically, the Roman arches will always have interest; in architecture they will hold the attention of student and practitioner as long as they stand, as long as their memory survives in thousands of photographs and drawings. But they are symbols of personal pride, of the ego, conquest for power, the subjection of the world to arbitrary rulers, the practical enslavement of subjugated peoples.

If there is one thing that the war has taught above all others it is the great idea of mutual sacrifices for the general welfare, of the forgetting of the individual in the one cause, our country, for which all were supposed to be working as a unit. It would seem as if the idea of a great memorial building, a building that embodies the best possible traditions of architectural beauty and dignity, planned for service, would be in keeping with the times. Such a building could be made a magnificent club-house for men of the army and navy who have served their country, a place where every comfort and convenience of the rich man's private club would be at their service. A gymnasium, a great swimming-pool, bowling-alleys, billiards and pool, hundreds of simply and comfortably furnished living rooms, a restaurant that could be run to meet the needs of the modest purse, should be part of it. It could be conducted on the plan of other clubs; only at the outset it must be established and bound hard and fast by rules that would forever keep it for all the men who served, and that would not permit it to become in time merely a place for those who could afford it. It should be liberally endowed, so that merely nominal dues would make membership possible for every man that would care to join. It would be well, also, to provide a great assembly hall and opportunities for study. Classrooms should be provided for those who might care to pursue the study of art, the trades, or business; ample opportunities for playing for those who would play and seek recreation; the privileges of study and guidance for those who felt the need of better fitting themselves for a wider service in the world at large.

Would it not be a good plan to find out from the men themselves some idea of what kind of a memorial they think would seem best? There is little question that it should be something more than a mere abstract idea of beauty, a mere monument representing so many thousands of dollars. The Greek temples are nearer to our idea of memorials in that they expressed in their wonderful art and refinement the national spirit. But we do not want Greek temples. They were cold and formal in their intent.

Will it not be possible to express in whatever we do something of the sentiment connoted in the word "buddies," something of fraternalism, clear-visioned, unselfish, unified, shoulder-to-shoulder striving for all things that make our country better—better men, better citizens, greater power against the elements of disloyalty and destruction that the war has shown us are menacing us from within?

How Are We Going to Build Them?

"IN the United States every year there is need of approximately $3,000,000,000 worth of building construction to meet the needs of the country. Of this total perhaps $2,000,000,000 worth is required for the housing of the people, the rest being used for industrial and amusement purposes.

"To-day in the United States we are short nearly $4,000,000,000 worth of houses for our people to live in. We are something like a million homes behind the need. And for that reason those who have made a business of the construction of houses should have no misgivings about the beginning of construction, despite the high prices. Every assistance should be extended to enable our people to build or buy their own homes. Where there is a community of home owners no Bolshevists or anarchists can be found. It is written in history since the beginning of civilization that where people reside in their own houses there the best in government and civilization exists. And so if this Congress can do anything at all to relieve the present needs of the people in the matter of homes, it should do so at once. I have pointed out two ways in which they can help: first, by creating this home-loan banking system, thereby making available at least $2,000,000,000 of existing assets for building purposes; and, second, by relieving from taxation the income on a limited amount of real-estate mortgages in the hands of individuals, thereby encouraging investment in securities of this character, in the end making sufficient funds available for building purposes. These measures, in my opinion, would be exceedingly helpful, and I hope senators will examine them and, if they agree with me, assist in securing their enactment."

The above extract from a speech by Senator William M. Calder clearly points out a condition, and proposes some encouraging ways of solving the building problem.

We are too prone to mind our own business, in general, and are unmindful of the intense seriousness of this housing question. In the cities it has passed the "waiting for better times" stage, and becomes a question of downright suffering and deprivation. Something must be done, and done now.

The limit of rents for the poor and the professional classes has been reached—exceeded, in fact—and we hear already of a promise of *further* increases next year. There are thousands of families all over the country who have been suddenly faced with the problem of buying the house they have lived in at a greatly advanced price, or hunting for a new place, often impossible to find.

Space for Monumental Buildings

IT would seem as if no argument would be necessary in planning an addition to a group of State buildings to make it seem advisable to consider the providing of sufficient space for properly displaying their monumental character and architectural beauty. It is to be sincerely hoped that the idea of a Capitol Park at Albany will be favorably considered. If there have been mistakes made in the placing of the new Capitol Building, in the location of the Educational Building, there is every reason now for preventing any further mistakes. We are advised that an opportunity offers for the formation of a group of buildings to the west, or in the rear of the Capitol, as suggested by the present State architect and his two predecessors. It is clearly so obviously the thing to do, it is hard to see how there is a chance for debate except on the single ground of cost.

The question of cost these days is a paramount one in all things, but there are few things more costly in the long run than poor planning of civic centres, or the submerging of dignified State buildings in an environment of incongruities.

The following letter will make the situation clear:

"The State of New York is now confronted with a condition where something more than the enduring character of the buildings is involved. We are about to erect a new office building for State departments, and are in danger of ignoring the greater question of an artistic setting for existing and for future State structures. The character of the buildings may change from generation to generation, but when we establish a grouping plan, wherein may be set forth the beauty and grandeur of the whole, I think it will be conceded that we should build, not for a lifetime, but for centuries.

"Unless the State officials act quickly within the next two or three months, we may commit ourselves to an irreparable blunder. Not merely would this mistake forever conceal the majestic dimensions of our magnificent Educational Building—said to be the most beautiful in the United States—but forever destroy the artistic setting of the capitol and the State buildings yet to come. Why not head off this great blunder, the evil effects of which will be felt during our own and succeeding generations, before it is too late?

"I speak not merely as an Albanian, but as a citizen of the State, when I plead for the creation of a park in the space immediately west of the capitol, instead of its use, as now proposed, for the new State office building. The facts of the situation are simply these: The legislature at the session of 1918 appropriated $700,000 for the purchase of the block of land west of the capitol, where the old buildings have been razed.

"At the session of 1919 an additional $450,000 was appropriated for part of the cost of the new State office building. Of this amount, $150,000 was made available this year for beginning the construction of the foundation. The trustees of public buildings have authorized the State architect, Lewis F. Pilcher, to proceed with the plans. It is understood that they have authority to prevent further expenditure pending the meeting of the legislature, January, 1920. It will then be for the legislature to decide whether the original plan to erect the building on this plot should be carried out, or whether another plot of land shall be obtained on which to erect the new office building."

The Thumb Tack Club of Detroit

THE architectural men of Michigan have formed a club called "The Thumb Tack Club of Detroit." This club is planned along the general lines of the Boston Architectural Club and the T. Square Club of Philadelphia.

All persons engaged in or interested in architecture are eligible for membership, so that the club will have every opportunity for advancement of public appreciation of architecture. It is intended to carry on a campaign against all intrusions of the city and parks with hideous examples of buildings and monuments. There will be a Beaux Arts atelier and other special classes for training the young men and lectures for the older men; each year an architectural exhibit, at which examples of architectural work from all large cities will be submitted and medals awarded. A competition is now under way for the new emblem of the club. Some of the architects are to start a scholarship next year for the successful entrant in a competition, the details of which are not yet arranged.

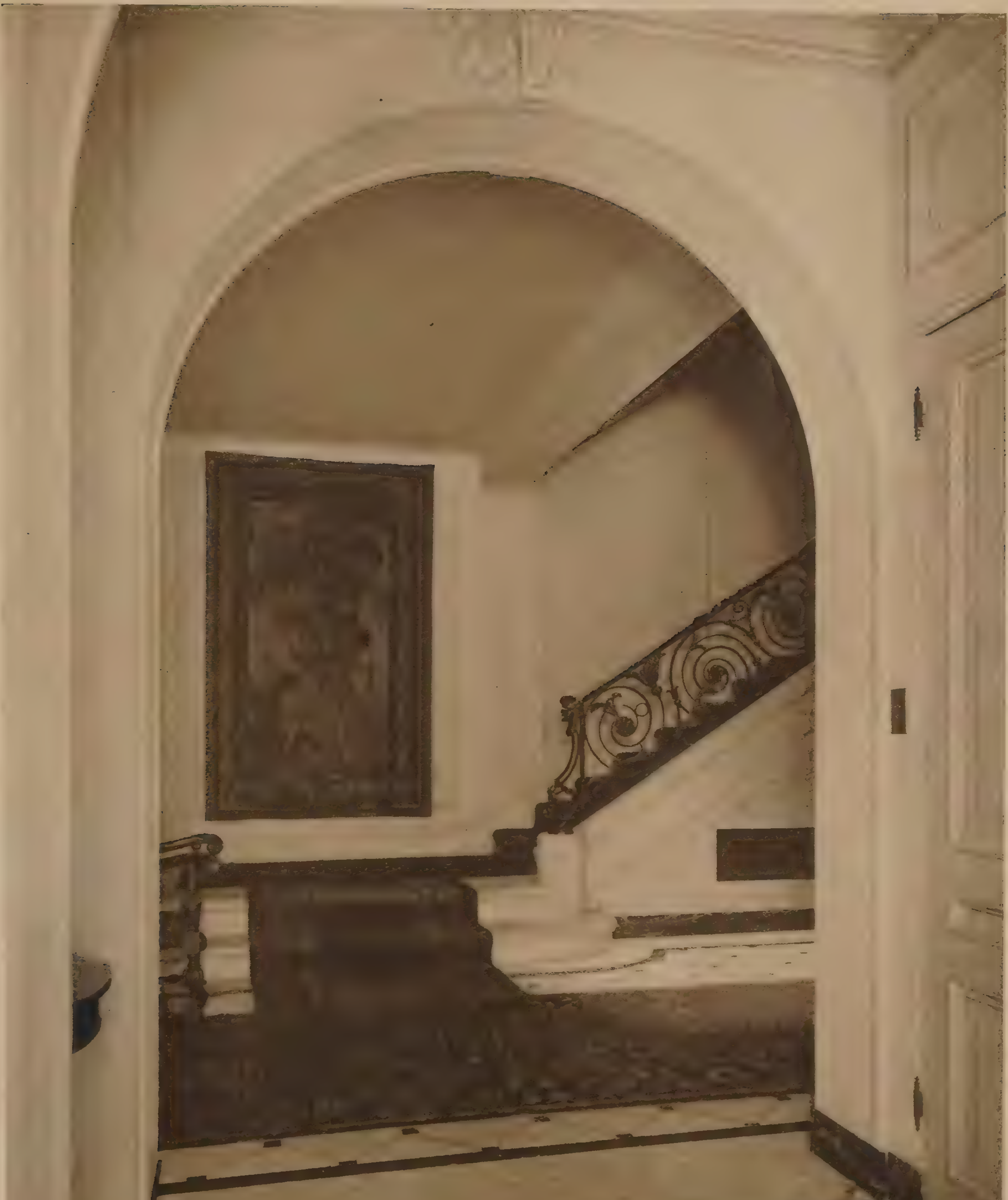
There should be a decided advance in the ability of the architectural students of Detroit due to the activities of the club, and the organization should prove a benefit to the community.

The clubrooms are located in an old house in the business centre of Detroit, at 83 Fort Street. The attic forms very interesting classrooms, the second floor is arranged for the clubrooms, and the first floor is rented for offices.

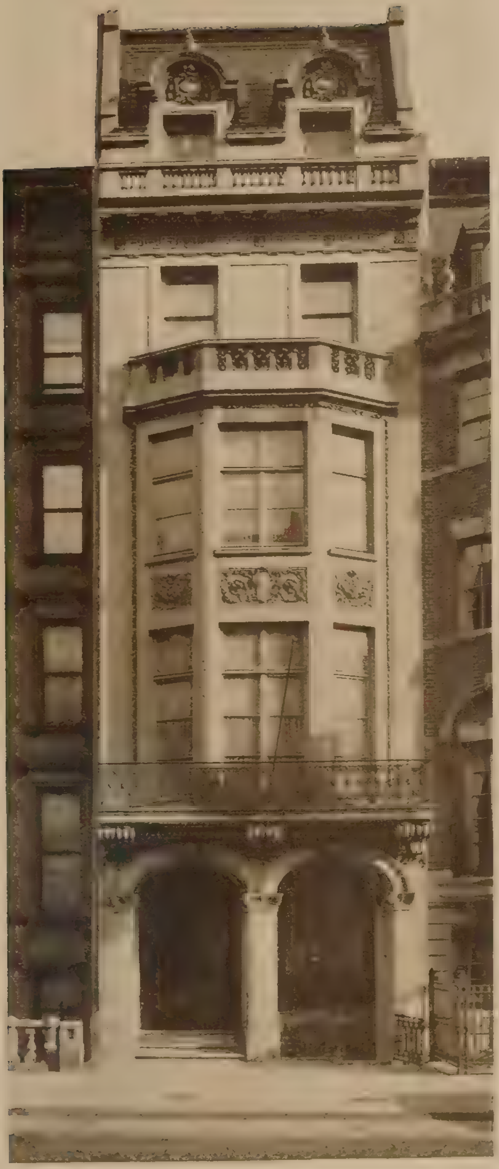
The entire management of the club is vested in the hands of an executive committee, which consists of the following men: Mr. Rowland, of Albert Kahn's office, president; the other six members are: Mr. Murphy, of the firm of Esselstyn, Murphy & Hanford; Mr. Keough, of the firm of Van Leyen, Schilling & Keough; Mr. Leone, of Smith, Hinchman & Grylls; Mr. Kapp, of the Wills-Lee Automobile Company, and Messrs. Sukert and French, of Albert Kahn's office. Clubrooms are open at all times to out-of-town professional visitors.

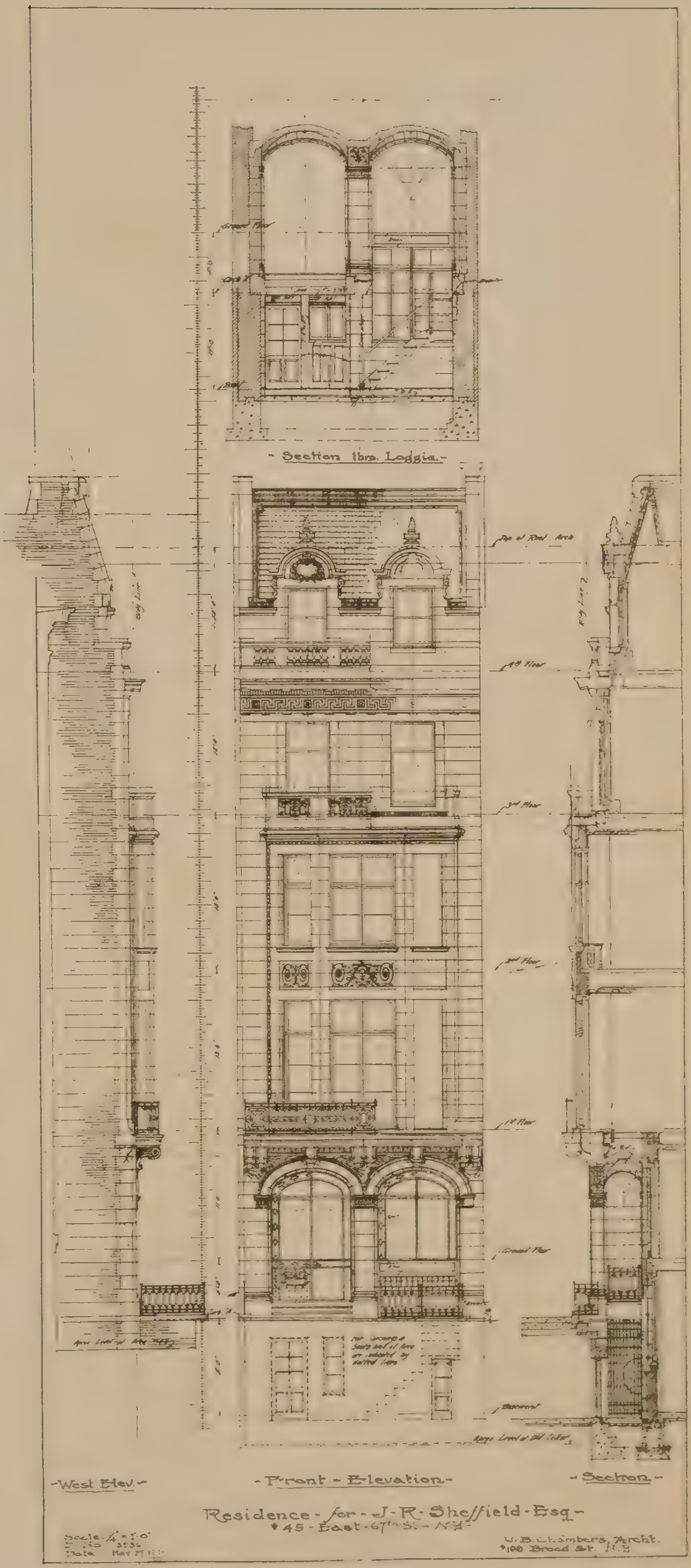
Winter Home-Building

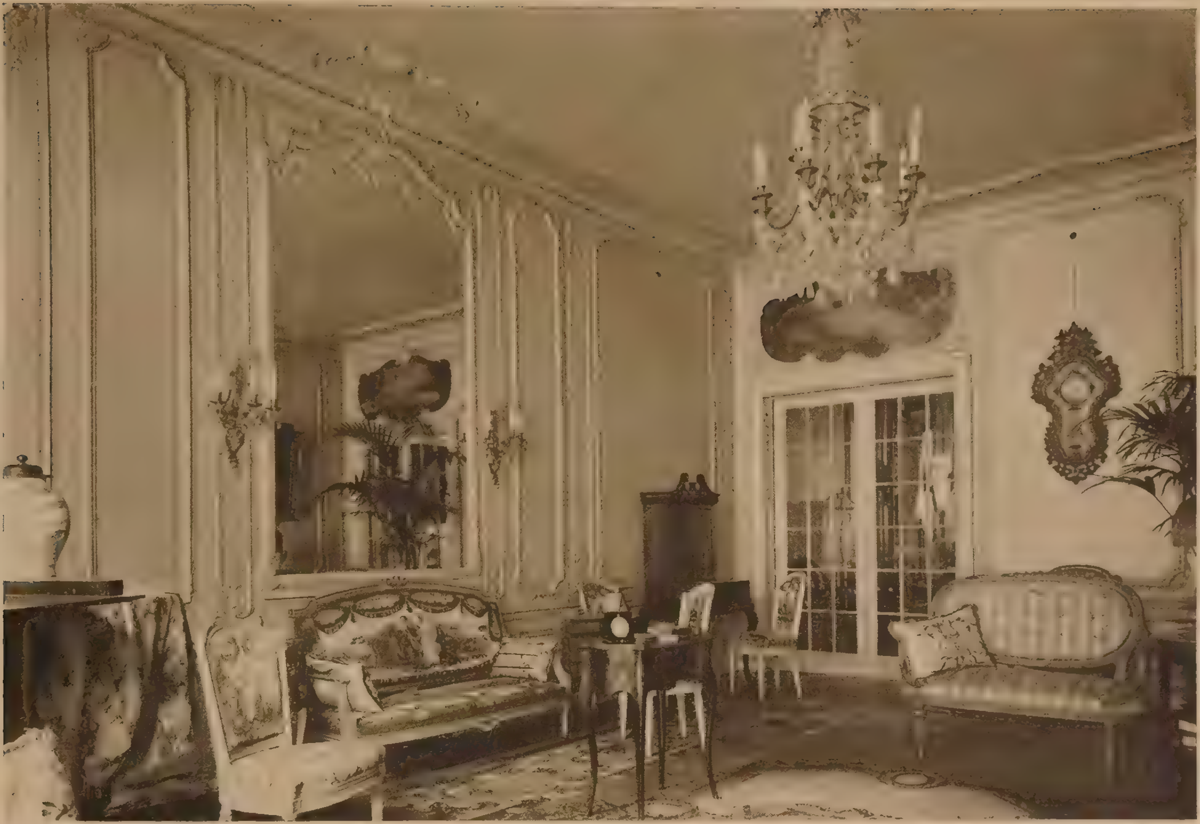
More than 72 per cent of the inquiries for home-building information and house plans come from prospective builders in the winter and spring months, particularly the winter months, according to a recent analysis made by the Southern Pine Association. Of 135,089 requests for building helps, 97,433 came between November 1 and May 31, and of these 97,433, 17,070 came in November and 17,921 in February. The season of greatest actual building activity is, of course, during the open warm-weather months, but the planning and deciding are done in the winter and early spring.



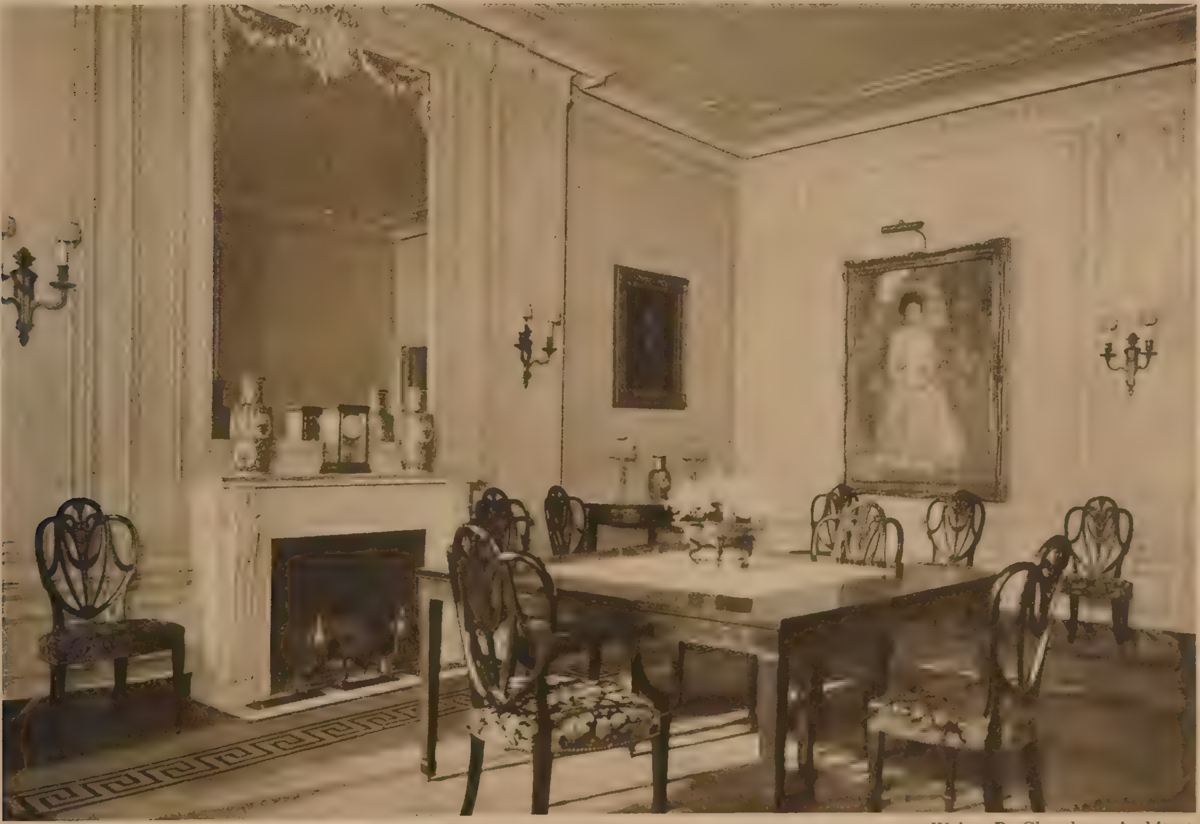
ENTRANCE-HALL, RESIDENCE, J. R. SHEFFIELD, 45 EAST 67TH STREET, NEW YORK. Walter B. Chambers, Architect.




- Section thru Loggia -
Top of Roof Arch
4th Floor
3rd Floor
2nd Floor
1st Floor
Ground Floor
Basement
Areas Level at Old Cellar
-West Elev.-
- Front - Elevation -
- Section -
Residence - for - J - R - Sheffield - Esq -
#45 - East - 67th St. - N.Y.
Scale ¼" = 1'-0"
W. B. Chambers, Archt.
#100 Broad St. N.Y.



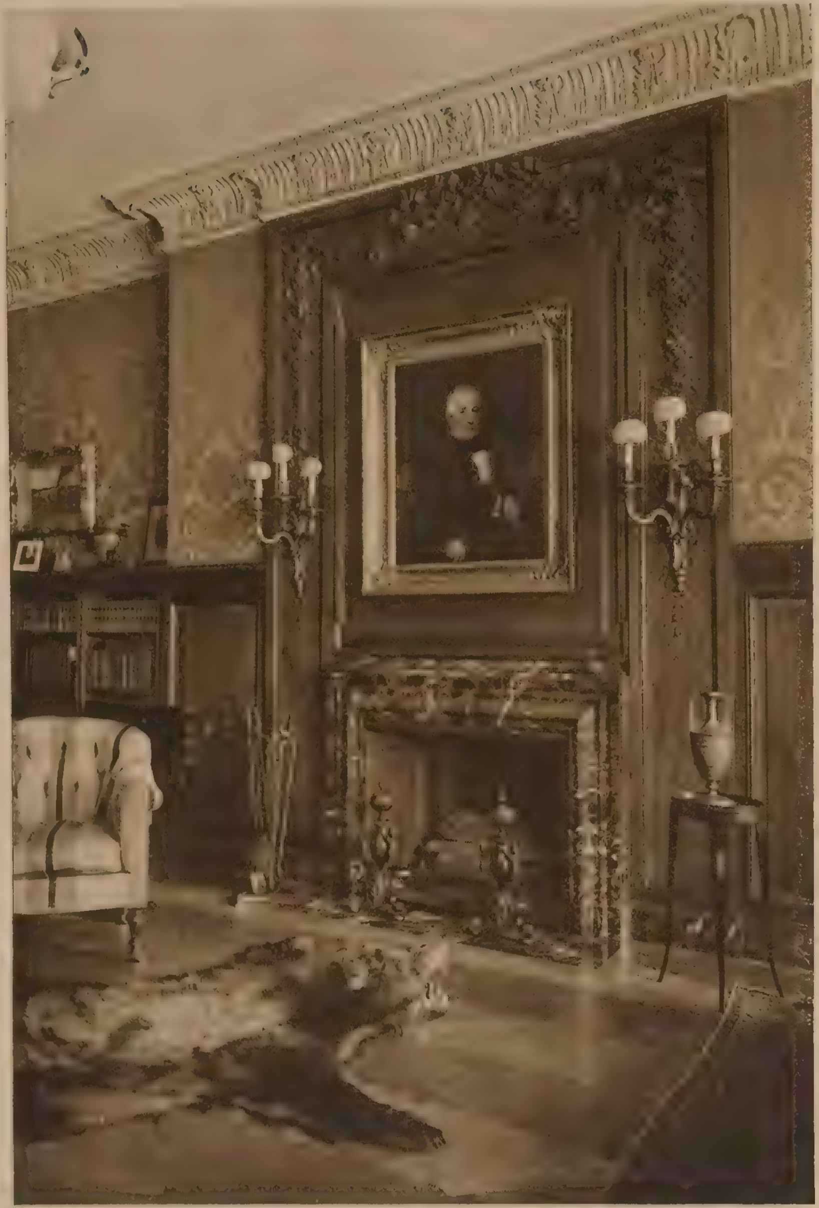
DRAWING-ROOM.



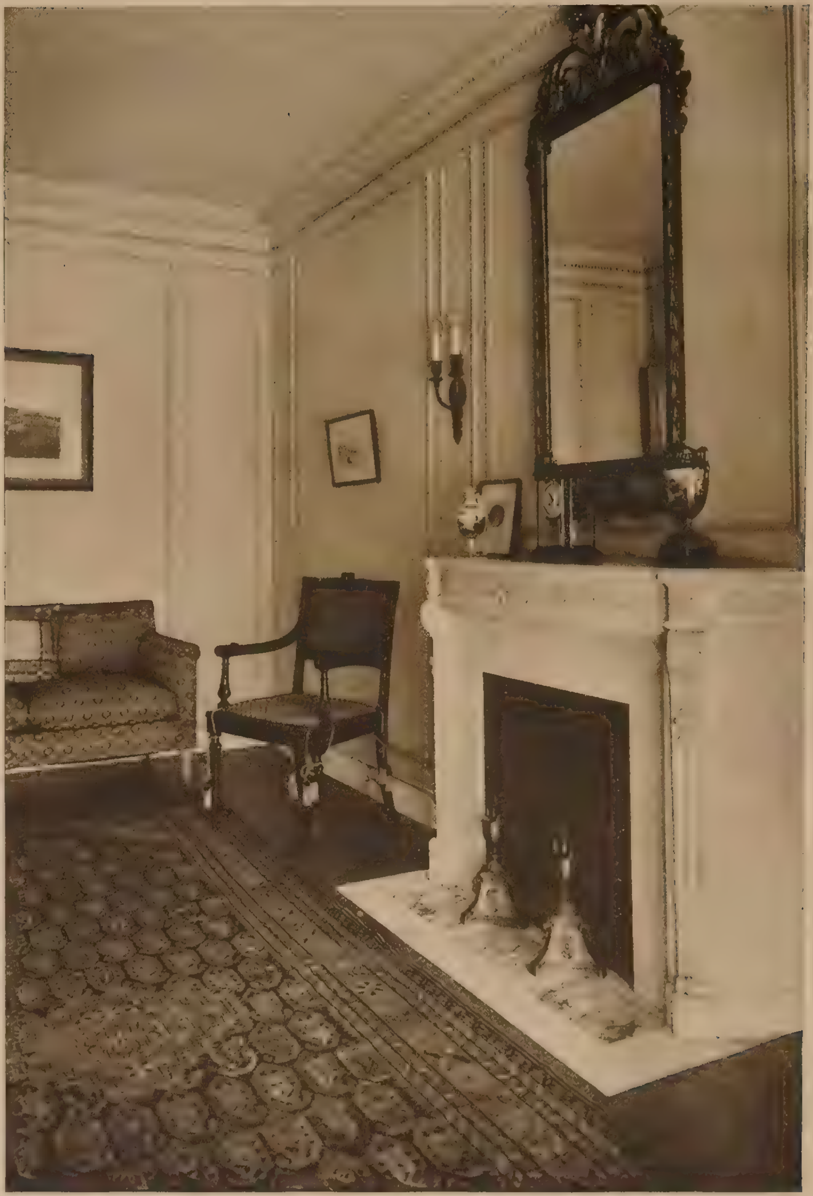
DINING-ROOM.

Walter B. Chambers, Architect.

RESIDENCE, J. R. SHEFFIELD, 45 EAST 67TH STREET, NEW YORK.



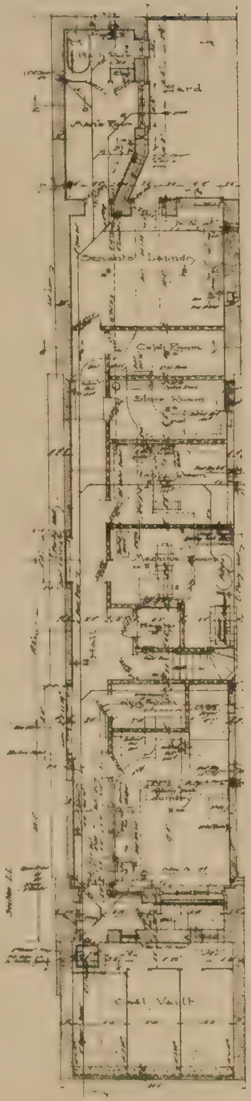
LIBRARY.



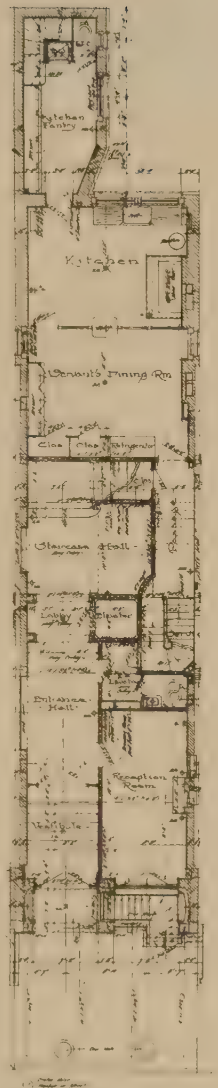
RECEPTION ROOM.

Walter B. Chambers, Architect.

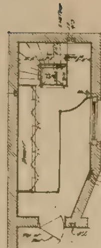
RESIDENCE, J. R. SHEFFIELD, 45 EAST 67TH STREET, NEW YORK.



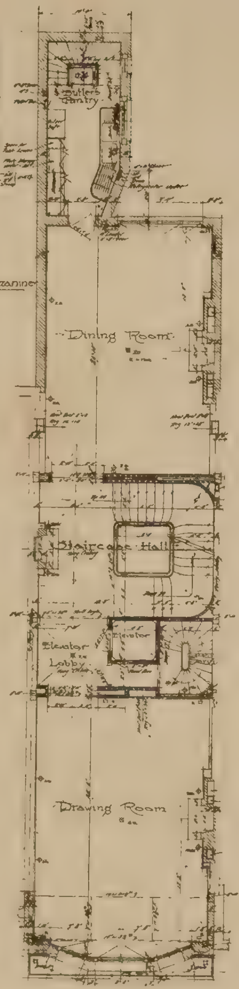
- Basement - Plan -



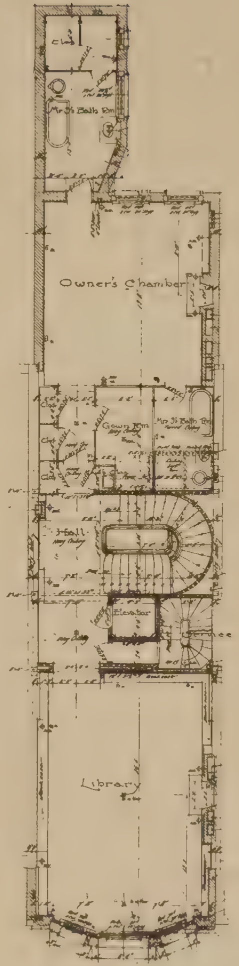
-Ground -Floor- Plan-



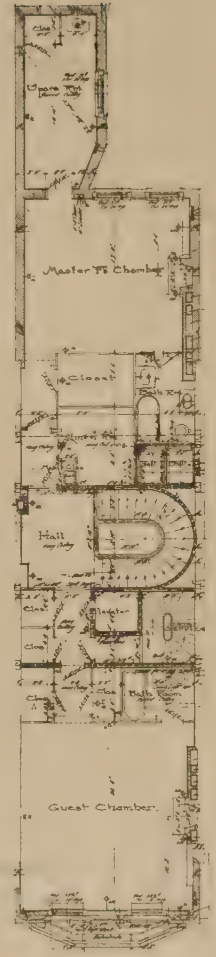
- Plan of Butler's Pantry Mezzanine



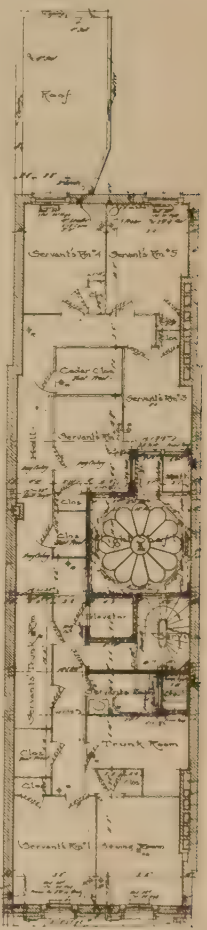
-First - Floor - Plan -



- Second - Floor - Plan -



- Third - Floor - Plan -

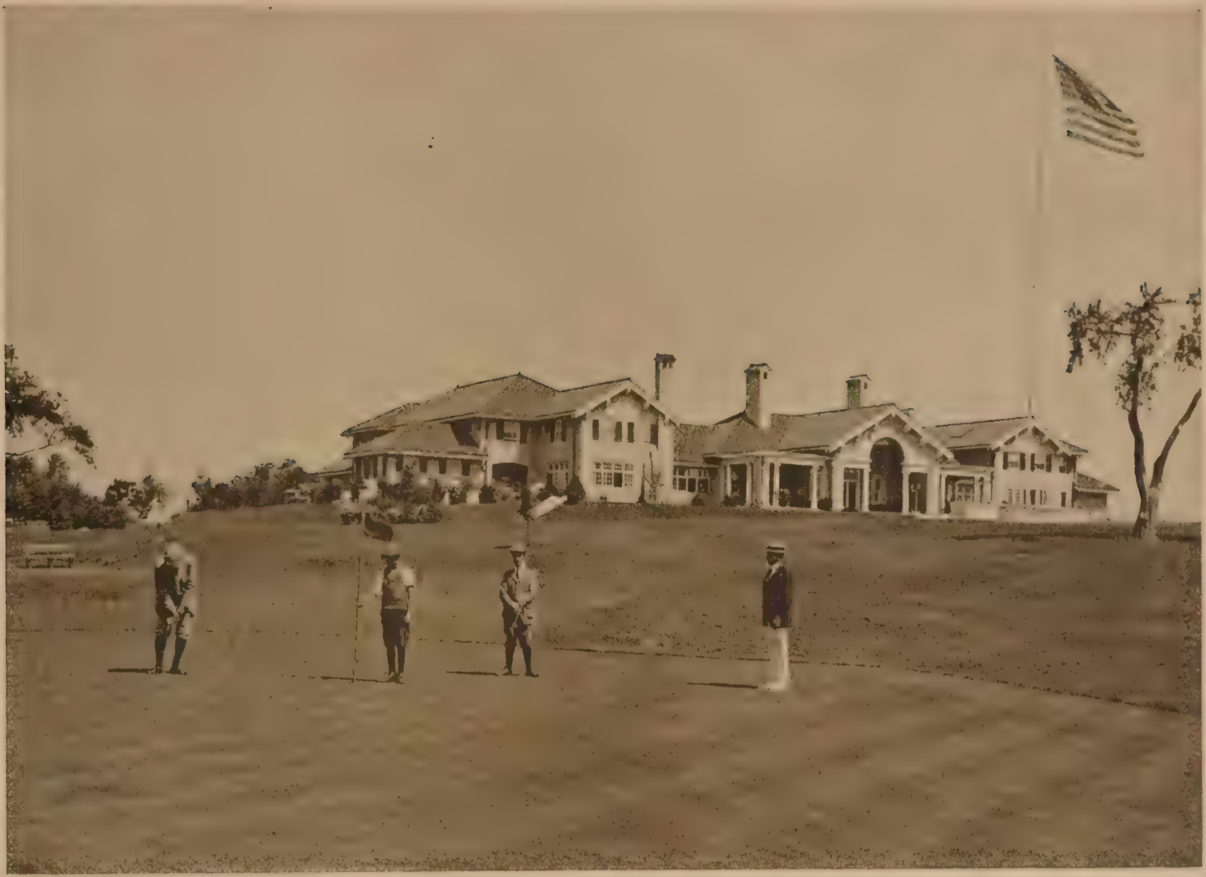


- Fourth - Floor - Plan -

PLANS.

RESIDENCE, J. R. SHEFFIELD, 45 EAST 67TH STREET, NEW YORK.

Walter B. Chambers, Architect.

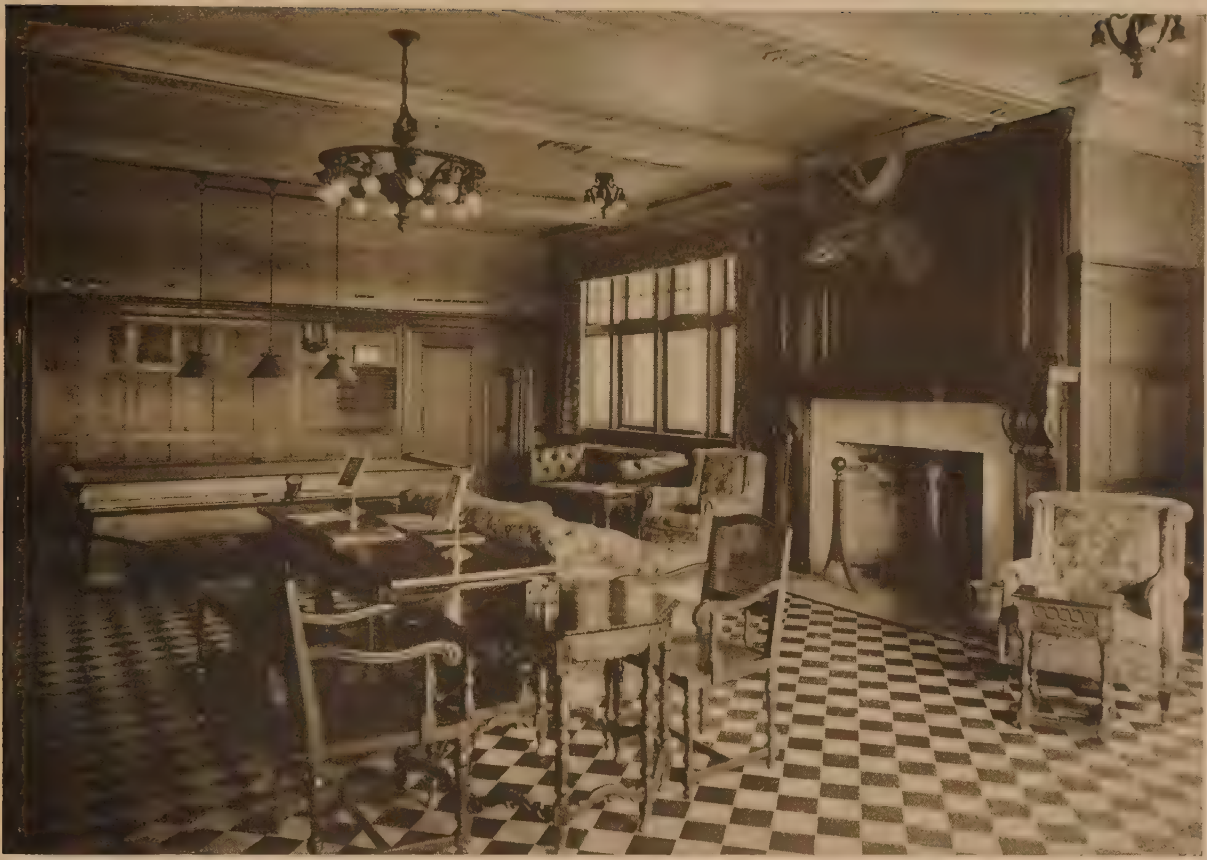


THE CLUB-HOUSE.

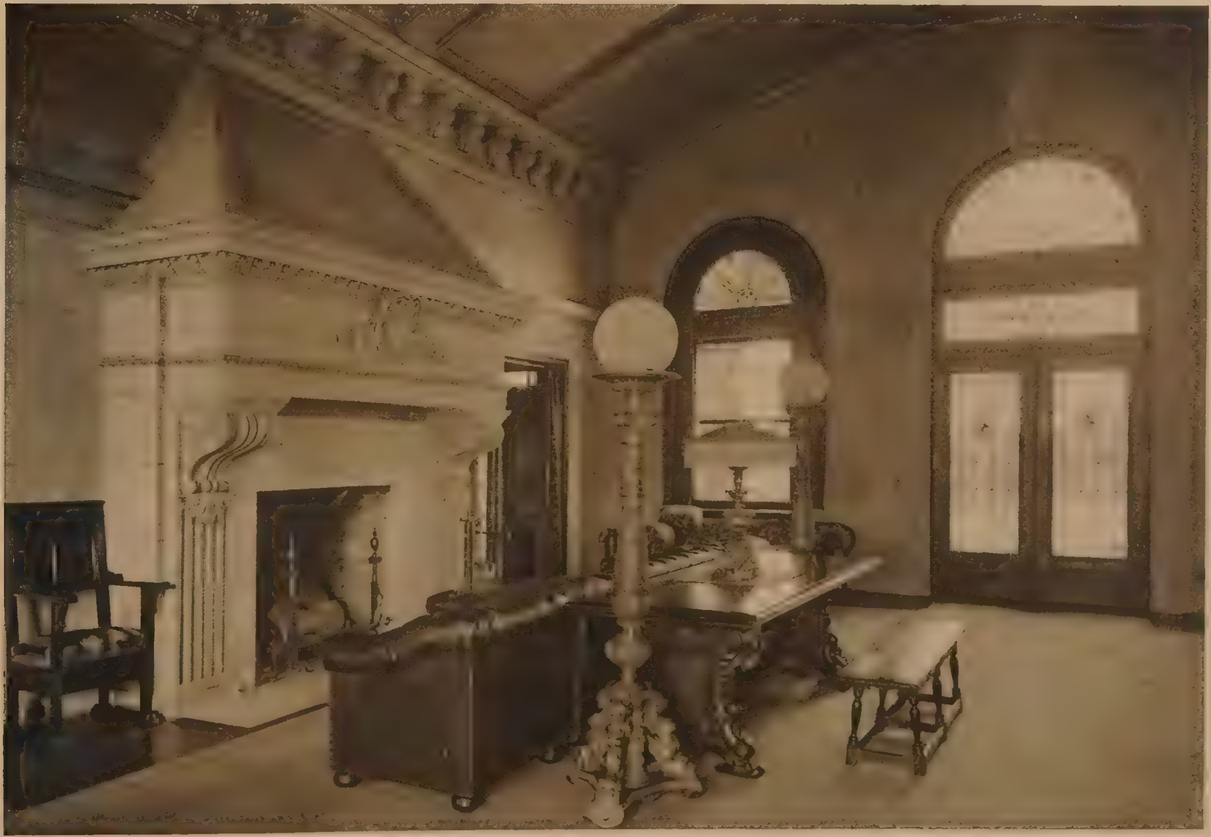
THE TERRACE AND GREEN.

Frank Ashburton Moore, Architect.

BLIND BROOK CLUB, PORTCHESTER, N. Y.



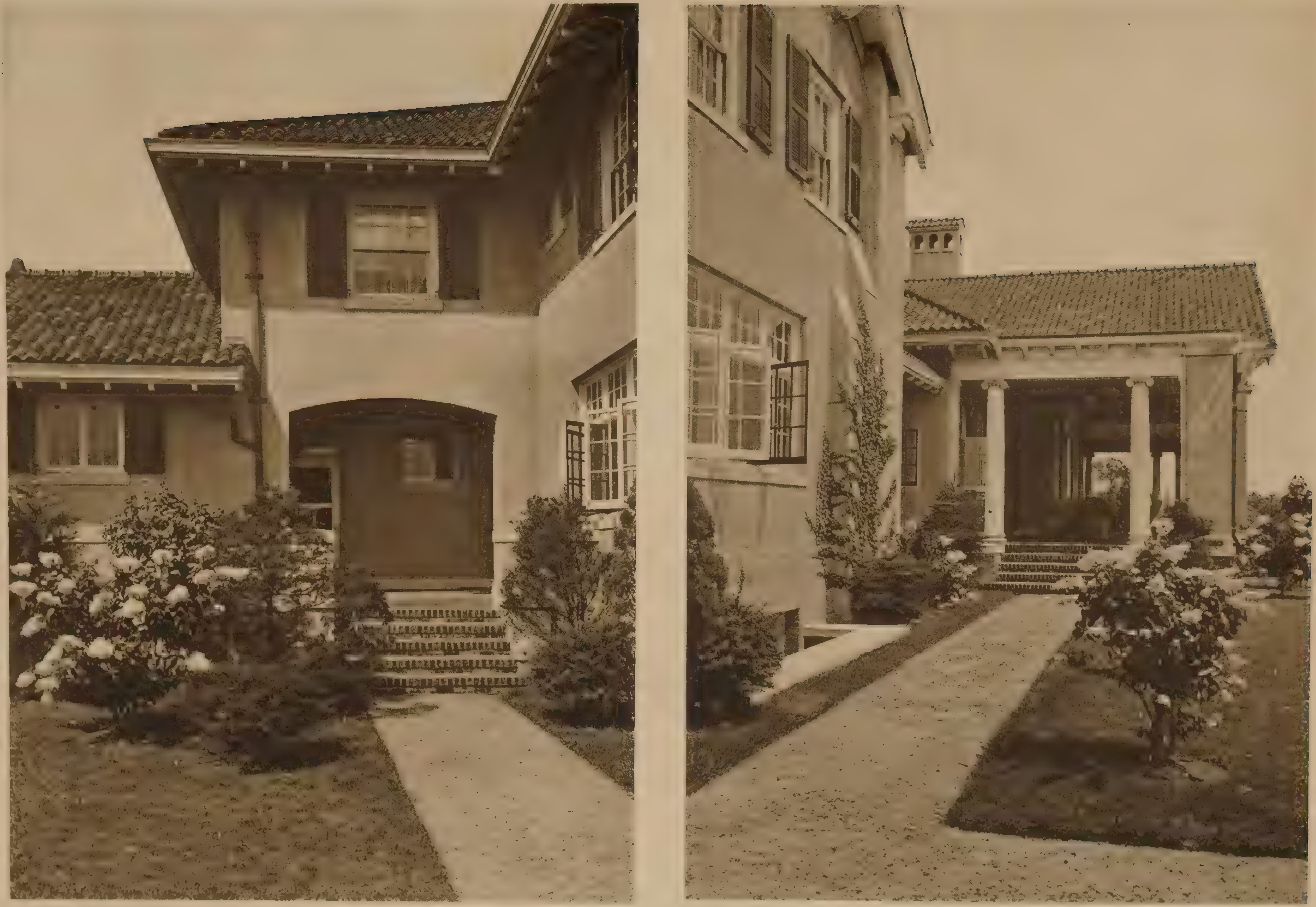
LOUNGE.



CLUB-ROOM.

Frank Ashburton Moore, Architect.

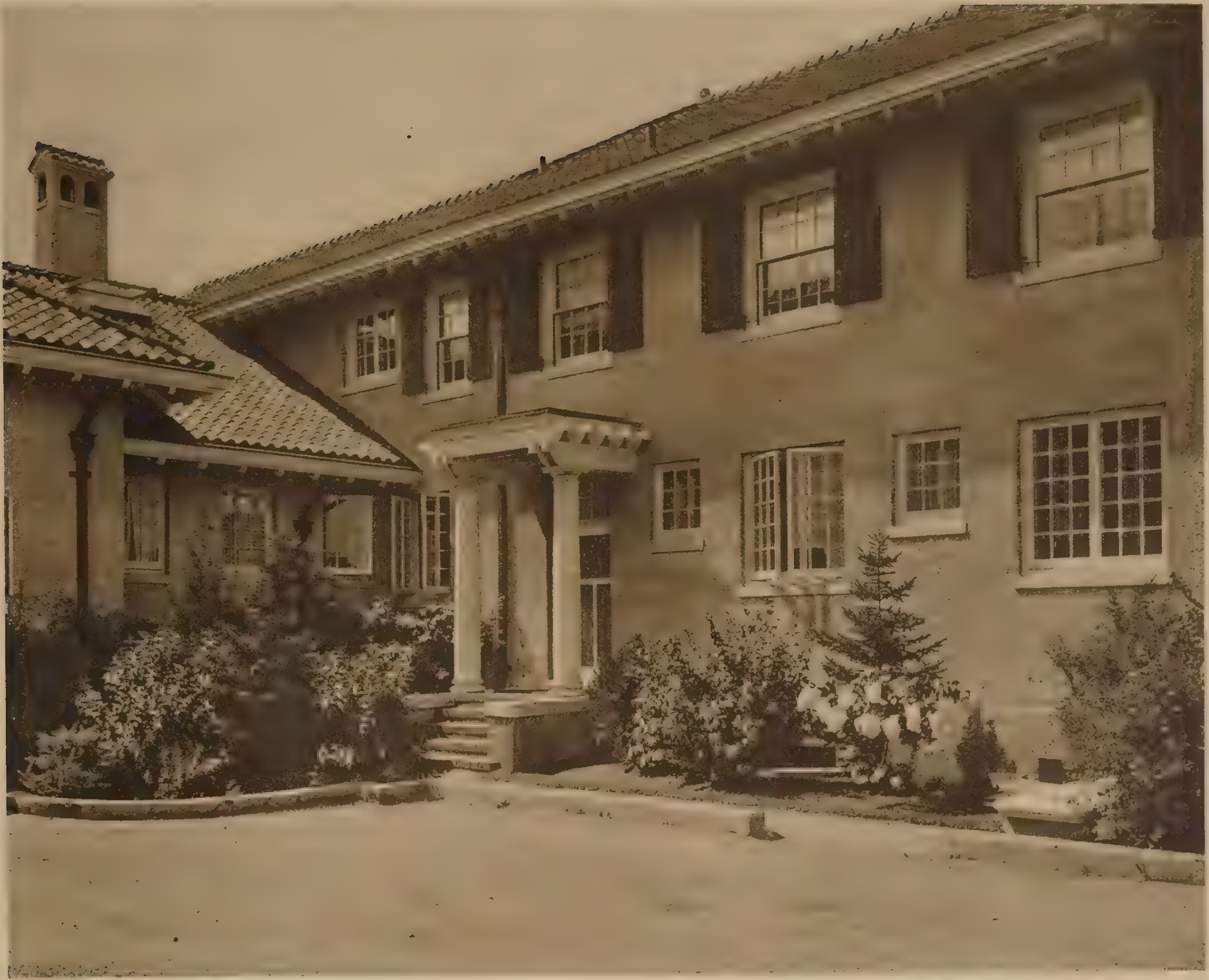
BLIND BROOK CLUB, PORTCHESTER, N. Y.



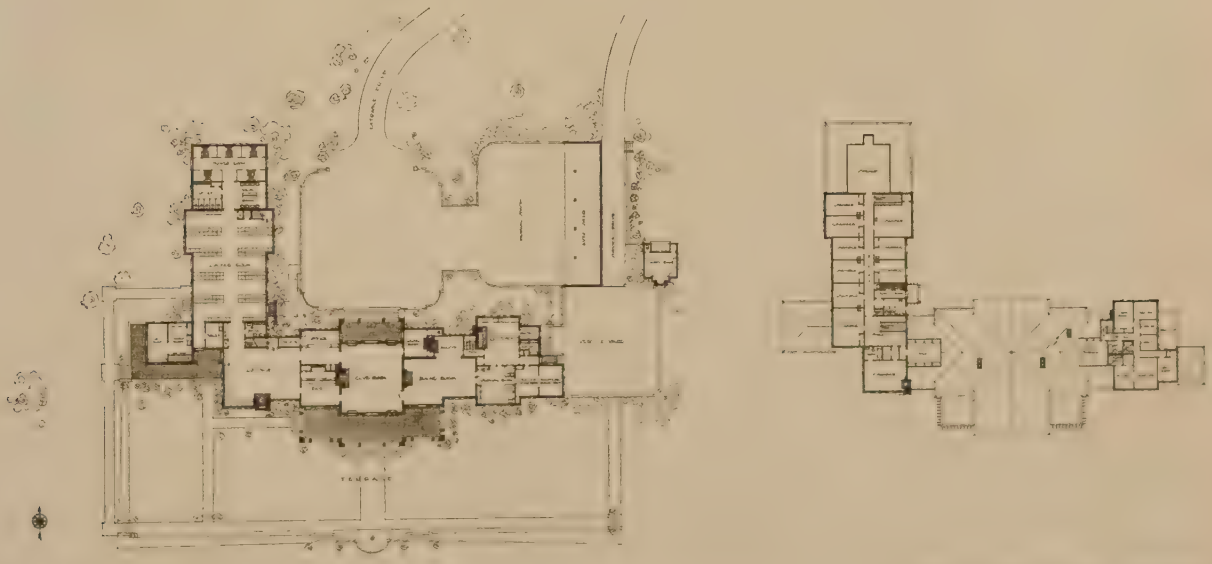
DETAILS.

Frank Ashburton Moore, Architect.

BLIND BROOK CLUB, PORTCHESTER, N. Y.



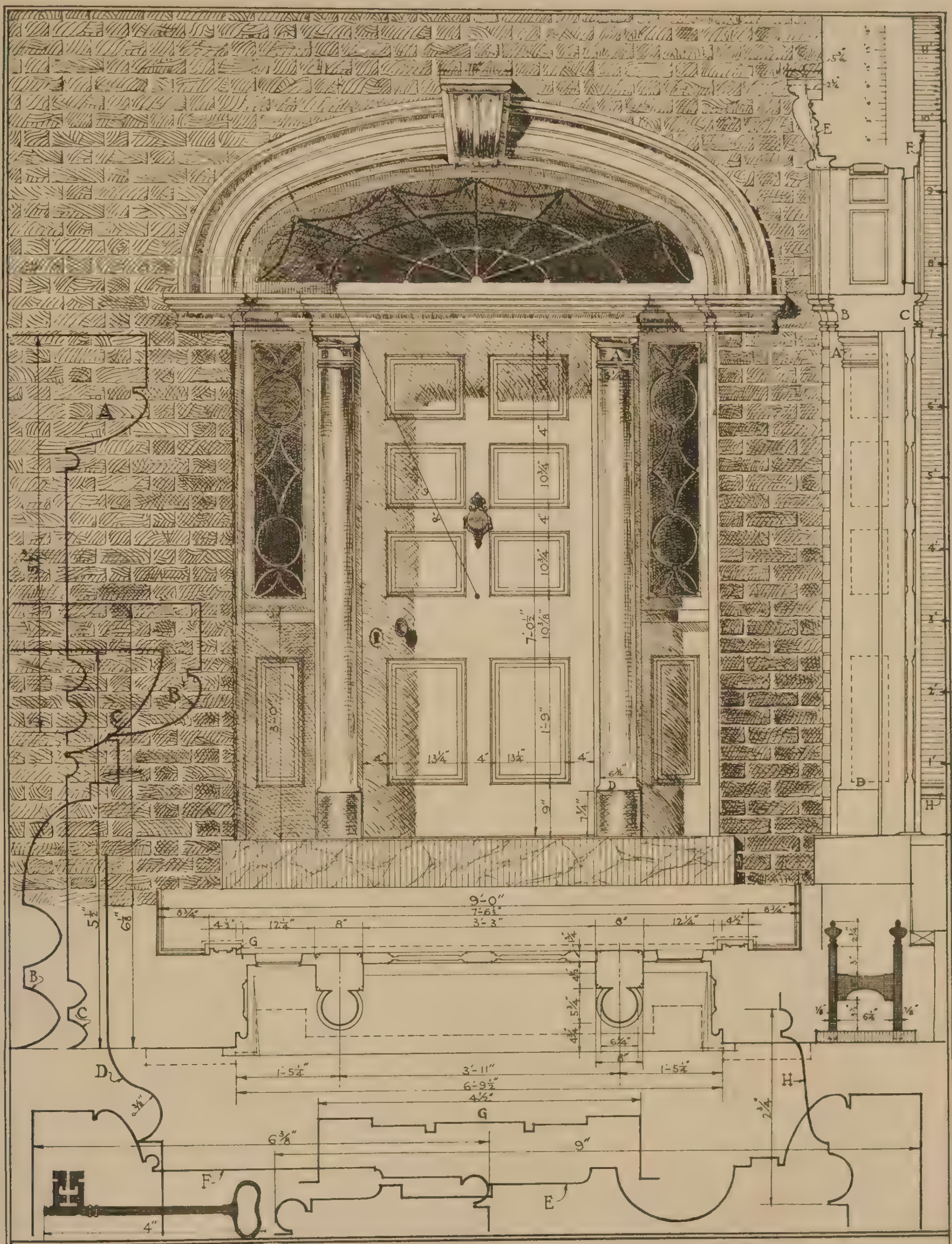
ENTRANCE TO LOCKER-ROOM.



PLANS.

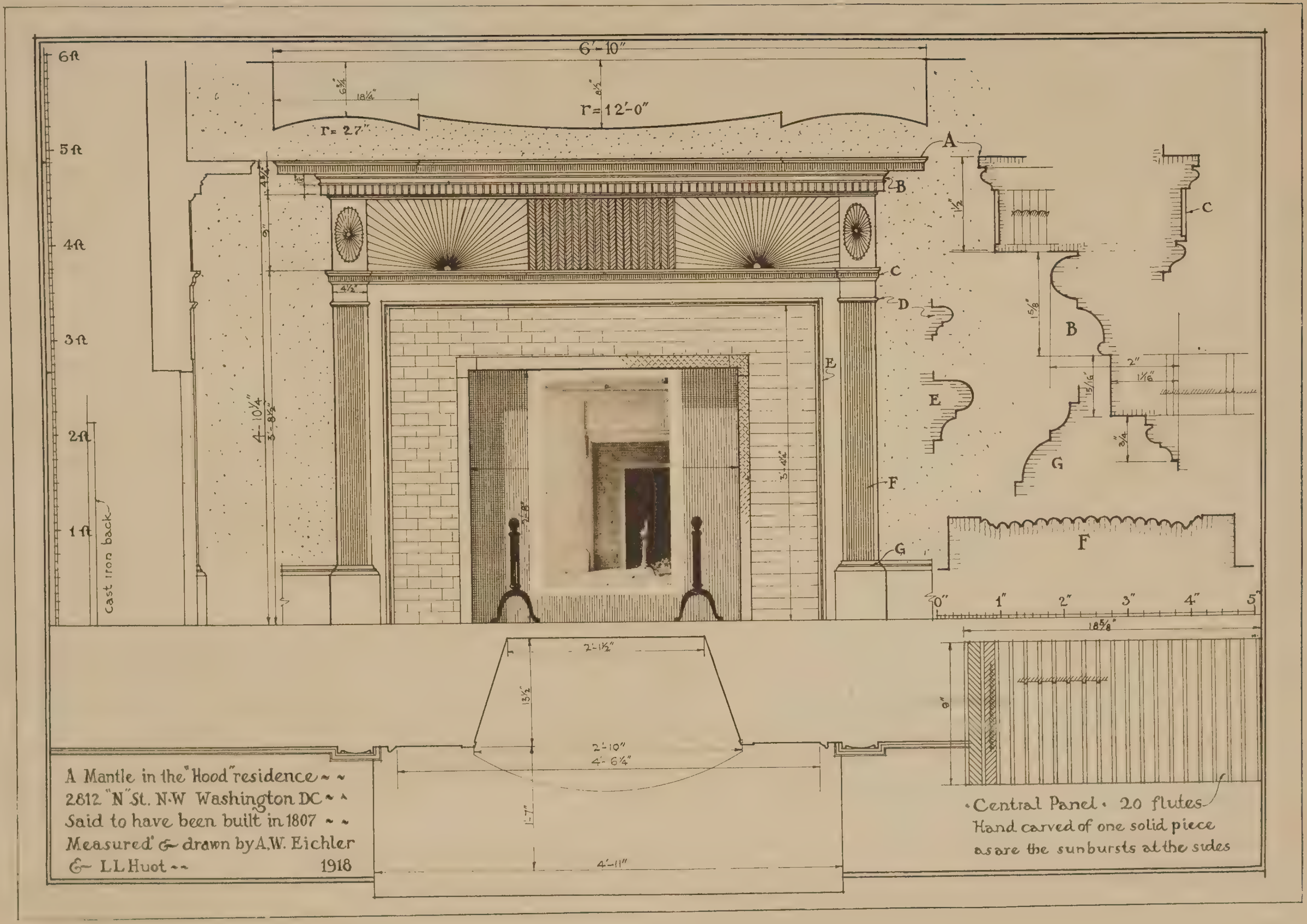
BLIND BROOK CLUB, PORTCHESTER, N. Y.

Frank Ashburton Moore, Architect.
Hinchman & Pilot, Landscape Architects.



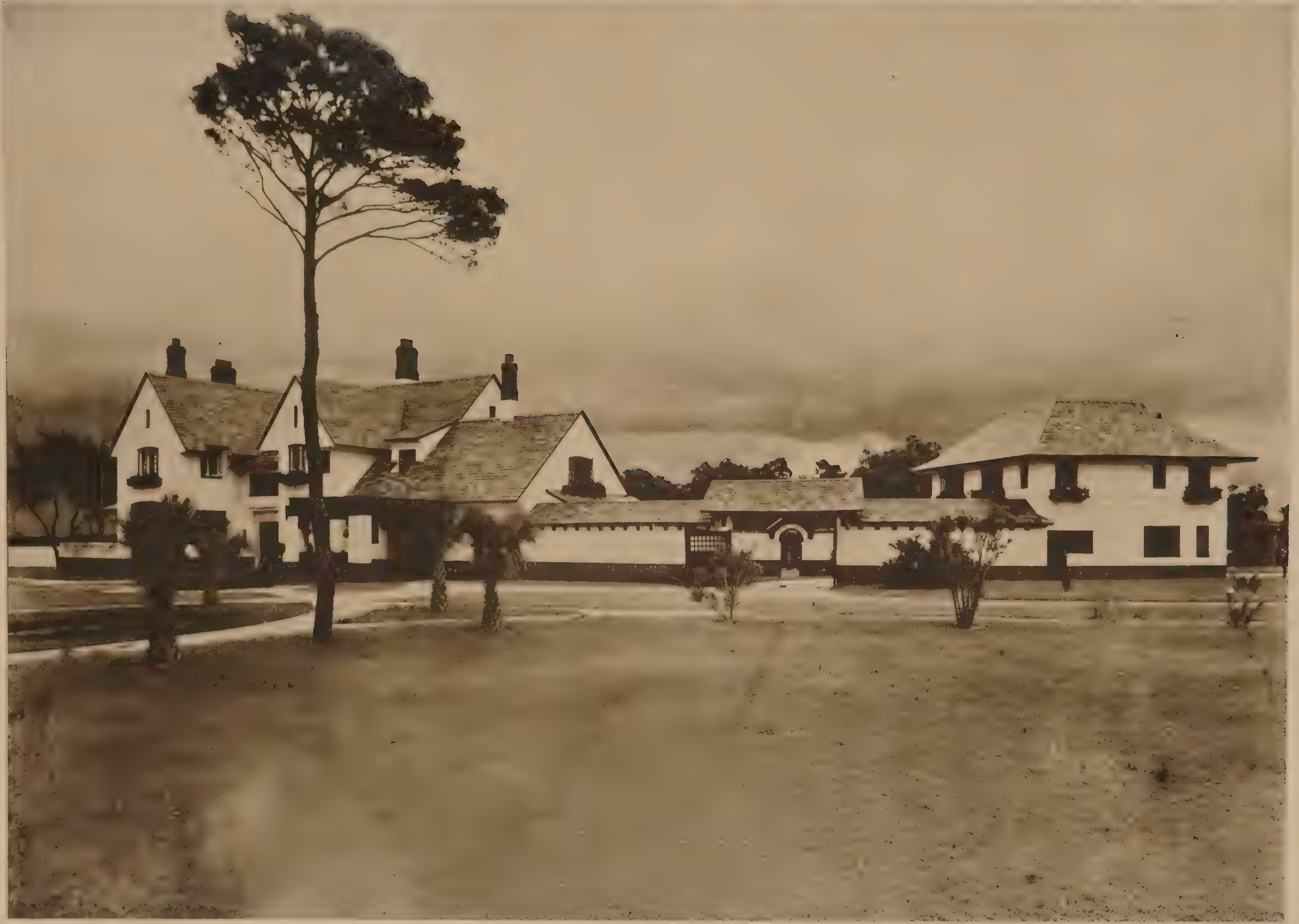
·ENTRANCE·DETAIL·OF·HOUSE·AT·
·2900·N·ST·N·W·GEORGETOWN·D.C·
BUILT·IN·1805
·Measured & Drawn by L.L.Huot·

0' 1' 2' 3' 4' 5' 6' 7' 8' 9' 10' 11' 12'



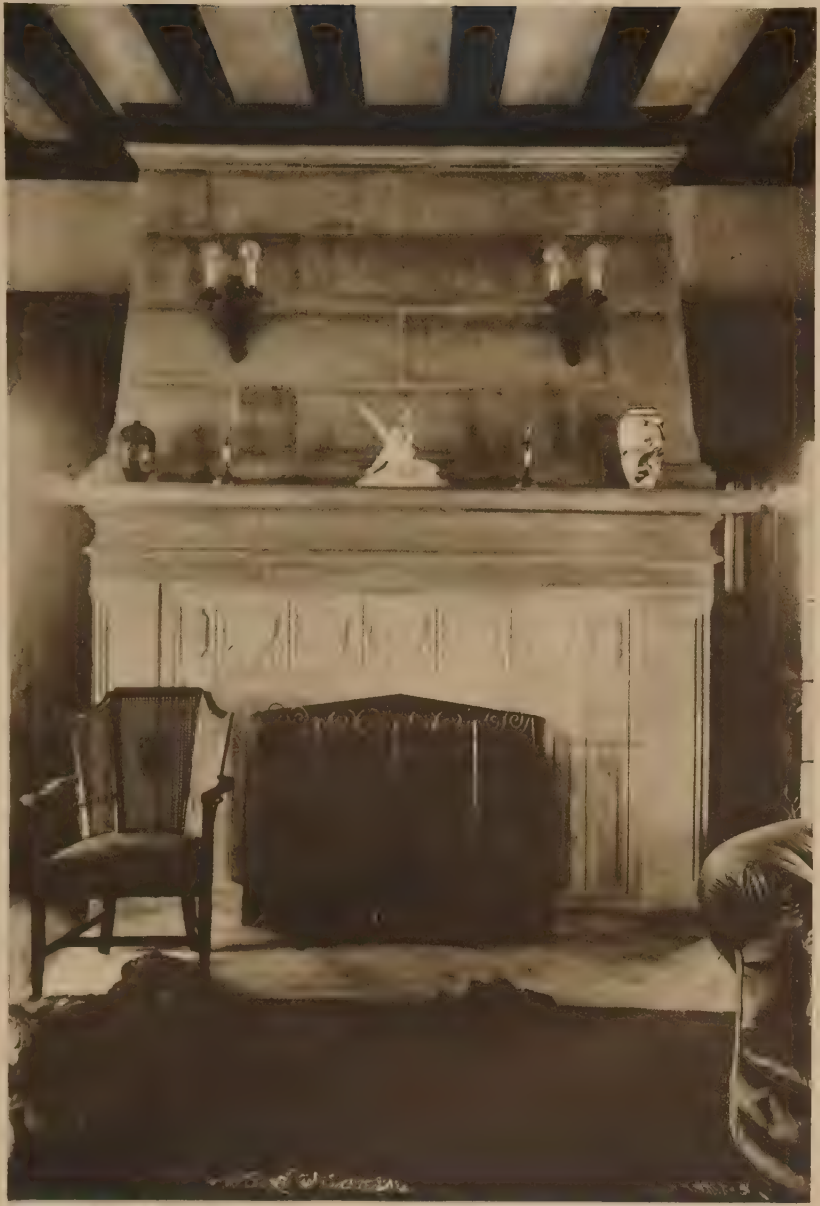
A Mantle in the "Hood" residence ~ ~
2812 "N" St. N·W Washington DC ~ ~
Said to have been built in 1807 ~ ~
Measured & drawn by A.W. Eichler
& L.L Huot ~ ~ 1918

·Central Panel· 20 flutes
Hand carved of one solid piece
as are the sunbursts at the sides

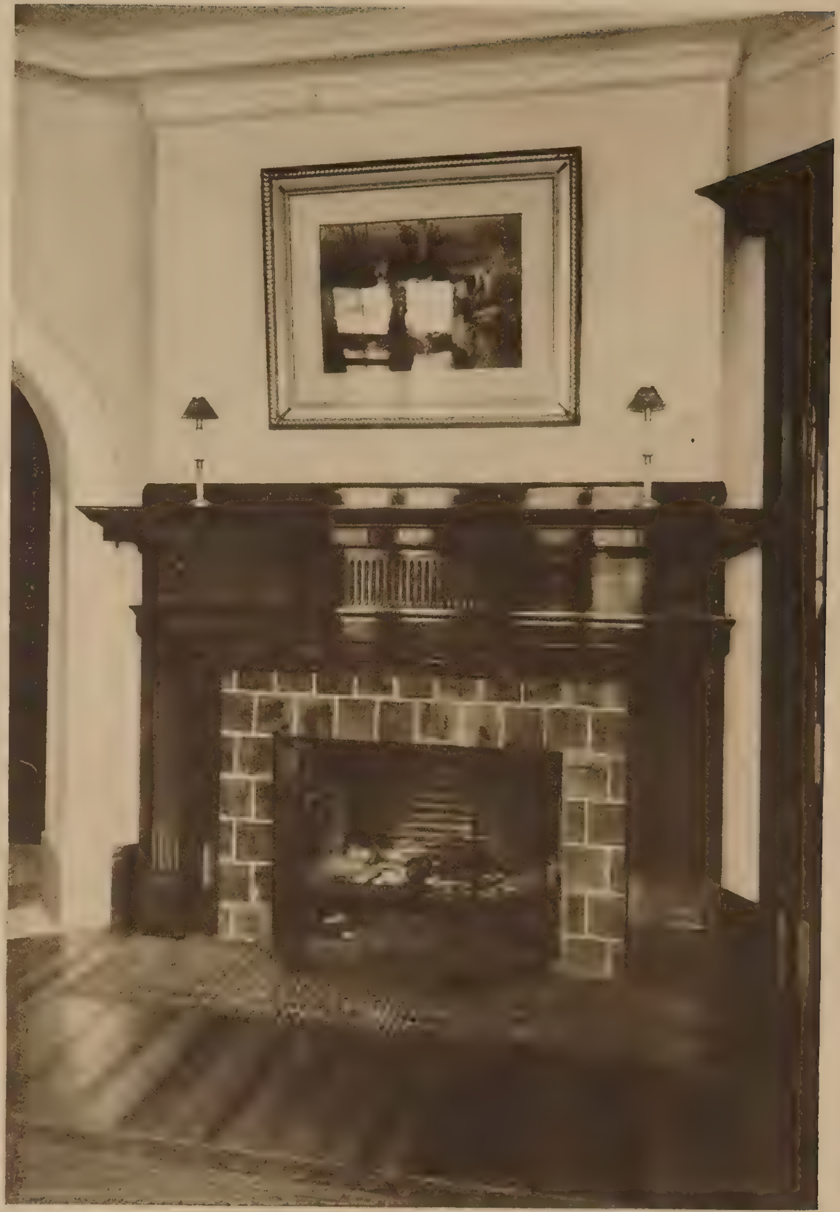


RESIDENCE, MRS. R. B. WORTHINGTON, BAYOU BONITA, ST. PETERSBURG, FLA.

W. S. Shull, Architect.



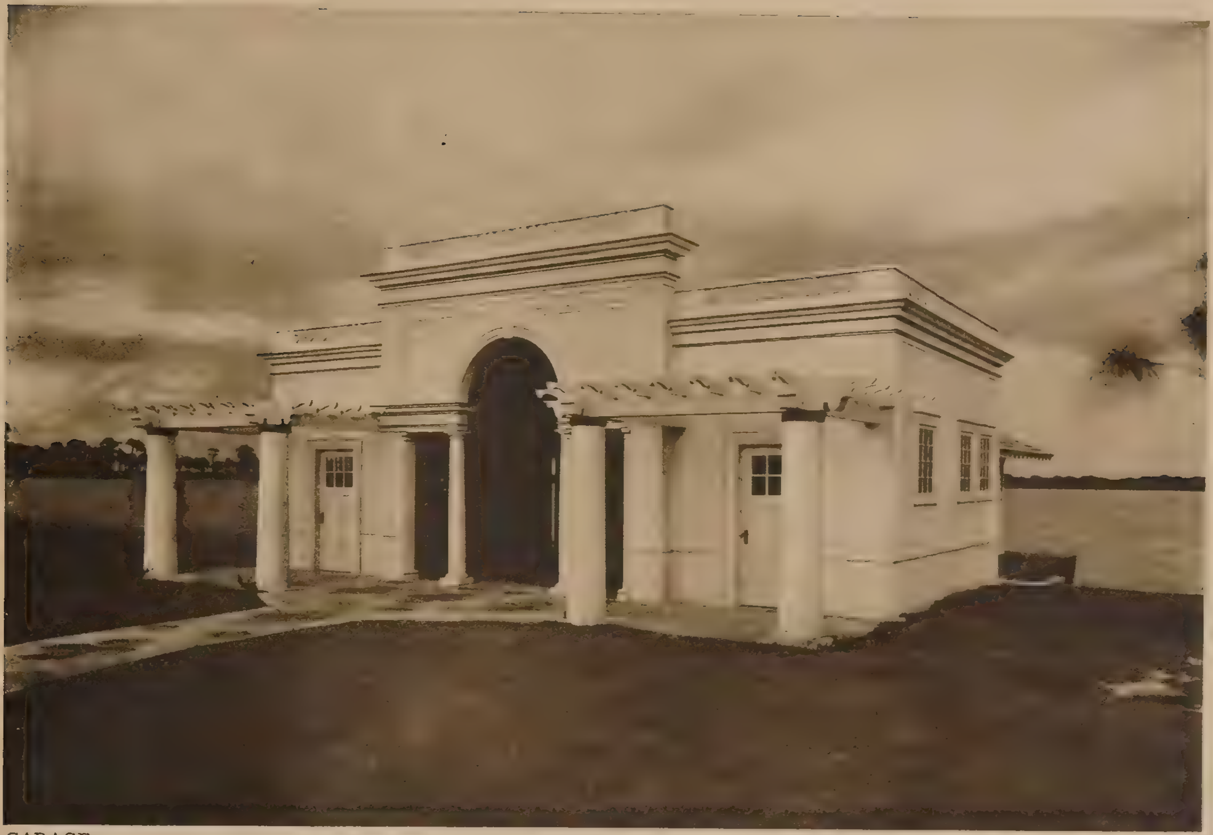
LIVING ROOM



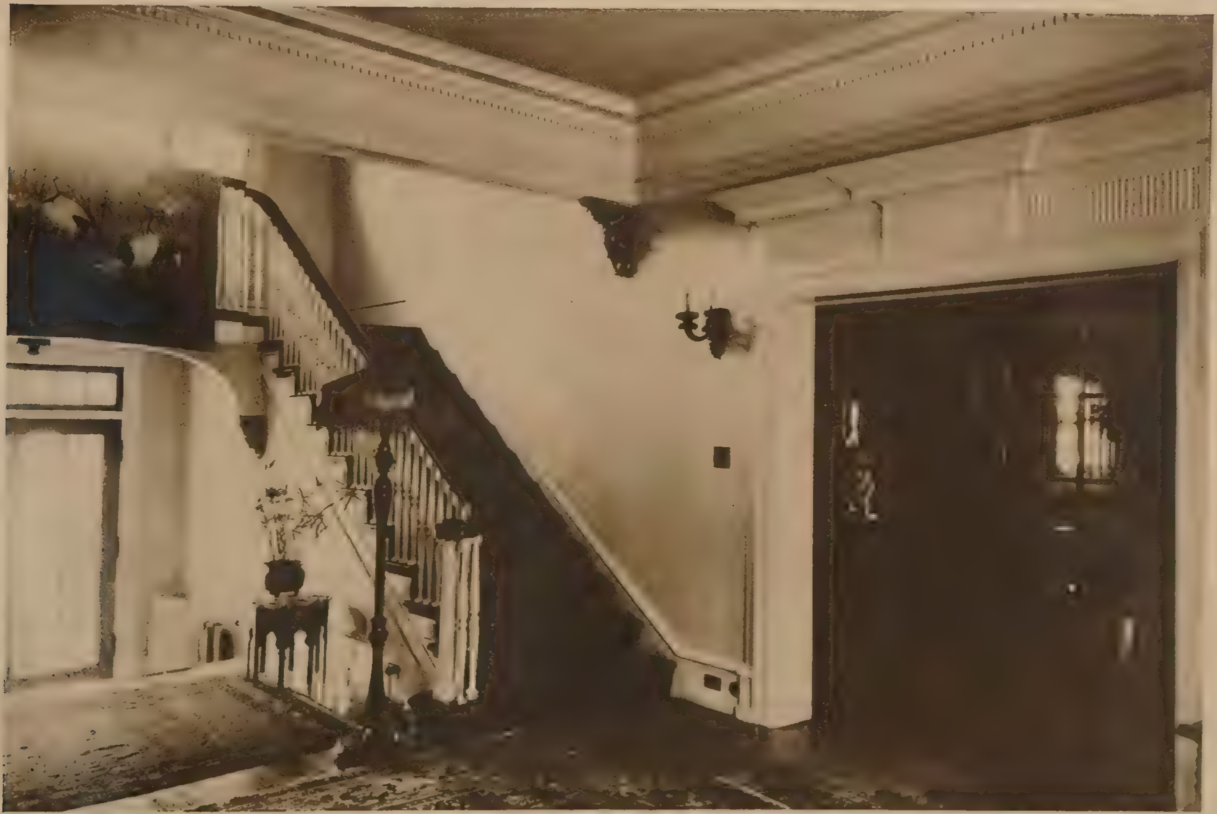
DINING ROOM.

W. S. Shull, Architect.

RESIDENCE, MRS. R. B. WORTHINGTON, BAYOU BONITA, ST. PETERSBURG, FLA.



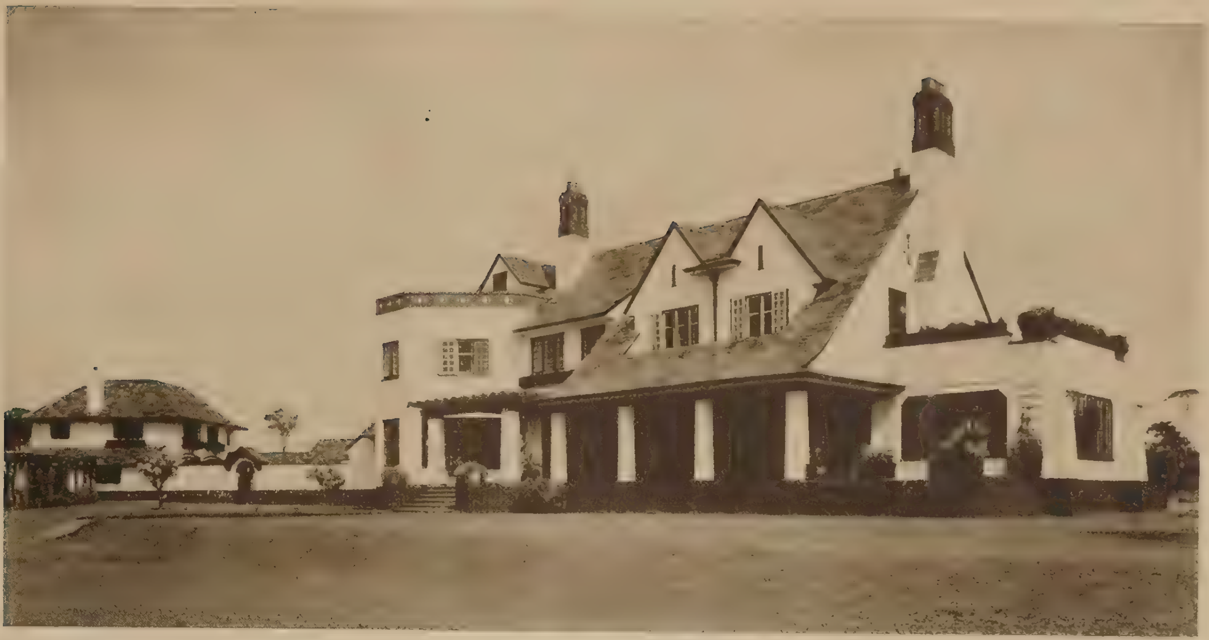
GARAGE.

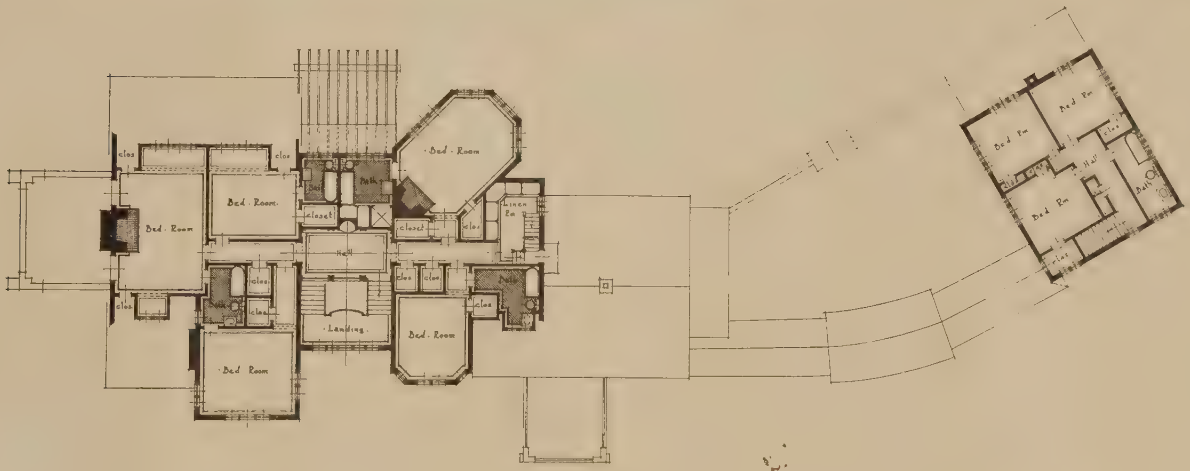


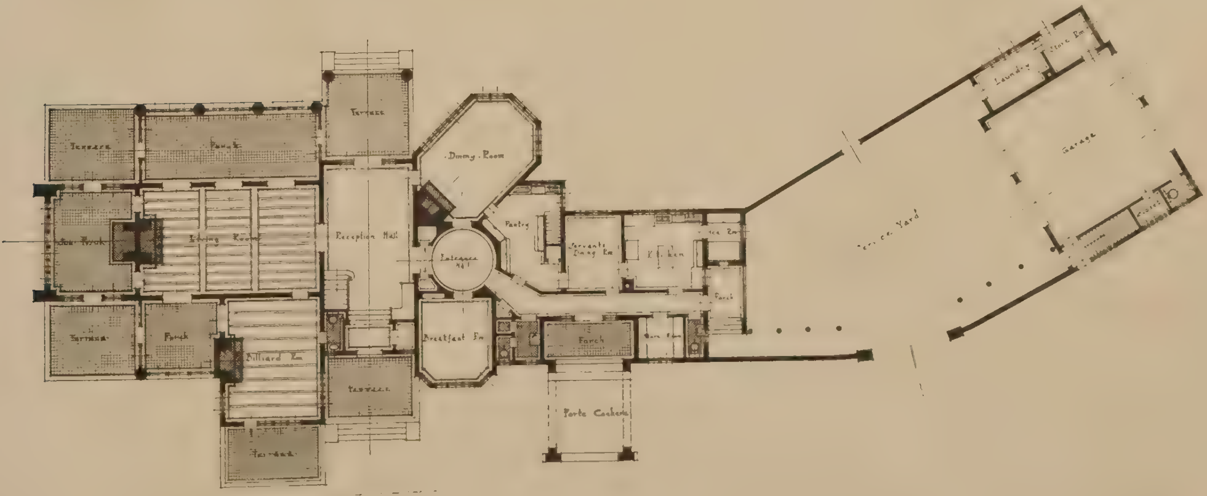
RECEPTION-HALL.

W. S. Shull, Architect.

RESIDENCE, MRS. R. B. WORTHINGTON, BAYOU BONITA, ST. PETERSBURG, FLA.







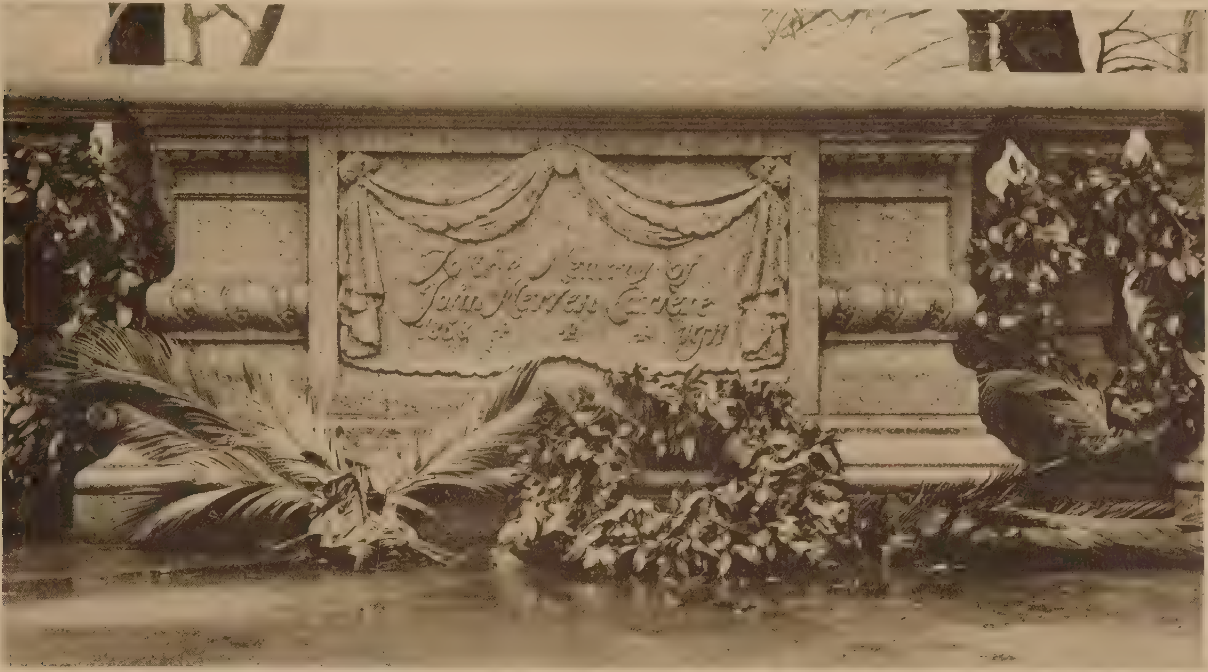
W. S. Shull, Architect.

RESIDENCE, MRS. R. B. WORTHINGTON, BAYOU BONITA, ST. PETERSBURG, FLA.

The Carrère Memorial

From the Address by Joseph H. Freedlander

Chairman, at the Unveiling of the Carrère Memorial at Ninety-eighth Street and Riverside Drive on Thursday, October 16, 1919

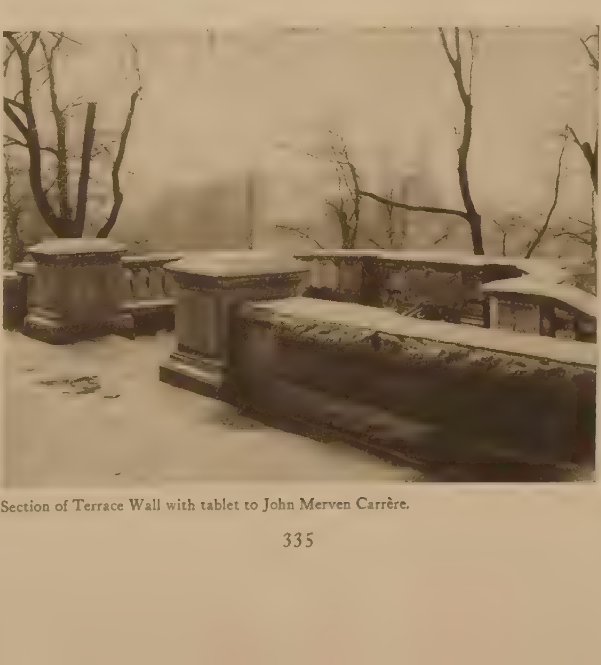


"THE memorial to John Merven Carrère which we unveil to-day may, with peculiar fitness, be termed a labor of love, for it came into being as the result of a spontaneous testimonial on the part of his friends to the admirable qualities of this remarkable and many-sided man.

"Taken off in the very prime of his professional career, he left a gaping void, for to the fine arts and to civic betterment he had rendered at all times inestimable service. It is a situation that I can best describe by saying that, although some years have elapsed since his untimely end, no one has taken his place.

"His virility, his keen conception of the dignity of the art of architecture, his willingness to be the standard-bearer par excellence of an idea, made him at all times an acknowledged leader in the profession.

"He found time for all, notwithstanding the exaction of his busy workaday life. I believe that I correctly interpret the sentiment of the architectural profession when I say that we not only esteemed but that we loved him—we loved his high sense of honor, his kindliness, the sweetness of his nature, and the consideration and tact with which he handled the great mass of professional questions continually placed before him for solution by his colleagues.


Section of Terrace Wall with tablet to John Merven Carrère.

"It is to the affection in which the profession holds his memory that this memorial is due.

"The memorial, designed by Mr. Carrère's partner, Thomas Hastings, is the only monument, with the exception of the Richard Hunt Memorial, erected to any architect in this country. It speaks well for the increasing public appreciation of belles-lettres and the fine arts that a place in one of the city's garden-spots should have been set aside to perpetuate the memory of a great artist.

"Here in this lovely park, in the autumn, in the winter time, through the hot, lazy summer days, let the passer-by who holds in greatest affection all that is beautiful in life pause an instant to lay at this shrine a token of appreciation to one who carried high at every turn the banner of the ideal and the true."

The committee in charge of this memorial included the following distinguished members of the architectural profession: Joseph H. Freedlander, Chairman, Donn Barber, Electus D. Litchfield, H. Van Buren Magonigle, William Rutherford Mead, Benjamin Wistar Morris.

Selecting the Right Roofing Materials

By H. Vandervoort Walsh

IN designing a building, the architect selects its roofing materials with a special point of view, quite different from that of either the engineer or the builder. On account of this fact, the accessible information is not in a form to meet his requirements, for most of it is written for the latter individuals.

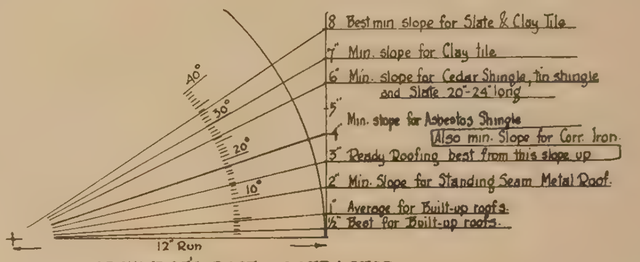
It is not a simple matter to plot the workings of the architect's mind as he singles out the kind of roofing material he will use on the building, but in a general way it probably runs in the following sequence, or if it does not, it ought to. First he is influenced by the artistic requirements, and makes a tentative selection of some material which fits in best with his design. As he proceeds further, he studies the required framing and construction necessary to support this type of roof, and then he gathers all the information on the fabrication features of the material itself for use in his detail drawings and specifications. Finally as a complete mental check, he takes a comparative view of such things as fire-resisting qualities, durability, and costs.

The very first steps, then, in the selection of a roofing material are almost entirely influenced by artistic reasons. Even though the architect may tackle his preliminary sketches with a predetermined conclusion on the kind of material he will use, he nevertheless has arrived at this decision by mental-picture designing. It often seems as though the cost alone influenced the selection, but in reality it is the artistic reason, for he will build up his design around the roof selected. Usually, however, in the first rough sketches, little thought is given to the actual materials that will be eventually used, but the design is studied for composition in line, color, light, and shade, with the result that such a thing as the pitch of the roof is determined by artistic reasons alone. Whether the roof shall be flat or sloping is a matter that is worked out in the designing. If it is flat, then the roofing material requires no artistic treatment, since it will not count in the general effect of the building. On the other hand, if the roof is sloping, it must be handled from a pictorial standpoint, and selected accordingly.

For example, the design may be a country house in the Italian villa style, and the roof in the preliminary sketches has evolved to a pitch of four inches in one foot. Now the very requirements of the style and the design demand the use of a clay-tile roof. Thus the selection of the material is determined and the pitch worked out; but the problem is to make the two co-operate in giving a roof that will not leak. As a matter of fact, in our climate a pitch of four inches in one foot is too slight for a clay-tile roof, and the chances are that it will leak, which proves that the slope of a roof must be established by both the design and the practical requirements of the material.

Certain observations have been made along these lines, and tables have been published here and there concerning the best pitch for different kinds of roofing materials. They are not mathematical conclusions, but merely rules of the thumb based upon the experience of many men. For instance, there has been established the safe minimum pitch for wood shingles, clay-tile, corrugated-iron, and standing-seam metal roofs. Also it has been observed that ready-roofing materials are best with higher pitches, while built-up roofs will run under the heat of the sun if they have a pitch exceeding three inches in one foot, and the average is one inch to the foot. Now this information is in no accessible form for the architect, and for this reason a device called the "Architect's Roof Protractor" has been prepared. It is the quick guide to the necessary information.

Related very closely with the pitch is the line effect that the roof will exhibit. In general the various materials which are used on sloping roofs display either conspicuous horizontal lines or marked vertical lines running from the eaves to the ridge. Certain types show a half-way effect where neither horizontal nor vertical lines predominate. In any case, all of the materials used on sloping roofs which show as part of the design of a building may be classified into two types: the scale or shingle type imitating Nature's system of protection as exemplified in a fish, or the sheet type counterfeiting in a poor way Nature's uniform skin covering. For simplicity the classification is shown in the following form:


8 Best min slope for Slate & Clay Tile
7" Min. slope for Clay tile
6" Min. slope for Cedar Shingle, tin shingle and Slate 20"-24" long
5"
Min. slope for Asbestos Shingle
4
Also min. Slope for Corr. Iron.
3" Ready Roofing best from this slope up
2" Min. Slope for Standing Seam Metal Roof.
1" Average for Built-up roofs.
½" Best for Built-up roofs.
40°
30°
20°
10°
12" Run

ARCHITECT'S· ROOF PROTRACTOR -

A. SCALE OR SHINGLE TYPE
1. Wood shingles.
2. Slate.
3. Clay tile.
4. Asbestos shingle.
5. Metal shingle.
6. Cement shingle.
7. Ready-roofing shingle.

B. SHEET TYPE
- (*a*) Standing seam or flat seam
  1. Tin roof.
  2. Copper roof.
  3. Lead roof.
- (*b*) Lap seam
  1. Ready roofing.
  2. Canvas deck.
  3. Corrugated iron.
  4. Corrugated asbestos.
  5. Corrugated wire glass.

C. PLASTIC ROOFS

These are used for flat roofs and do not enter into the discussion of artistic merit, and are built-up roofs of tar and felt, patent preparations, etc.

Now, of the above roofs, the kind which exhibits marked horizontal lines is the square, shingle type of wood, slate, asbestos, tile, etc. Those which effect marked vertical lines are the standing-seam metal roofs. The mixed horizontal and vertical lines are displayed by Spanish or French clay tiles, corrugated roofs, etc. Diaper patterns are secured by the shingle type laid to certain brick pattern bonds, like the English or French bond. Imitation thatched roofs of wood shingles or ready-roofing shingles give soft flowing curves if laid properly. The smooth surface with practically no dominant lines is realized by the flat-seam roofs of metal, although the interlocking sheet is plain enough to give an ugly appearance within a certain radius.

Here again the designer probably has arrived at some conclusion in his sketches as to what kinds of lines he wants to emphasize in his roof. In order to produce them it is necessary to select the type of roof which by its nature creates them.

Next to line effect comes texture and color. We can divide roofing materials roughly into two texture groups: those which display comparatively smooth monotone surfaces, and those which exhibit rough textures with mottled colors. However, we can mix these two classes, with doubtful value, and have smooth surfaces with mottled colors. Many ugly examples of this practice are noticeable in slate roofs. If it is done, the utmost taste must be used. We can also see many examples of rough-texture roofs with monotone colors, but generally they would be improved by more variety of tone.

These two classes of roofs have characteristics that are quite pronounced. The smooth-texture roof with the monotone color is more dignified and better suited to classical or monumental buildings. On the other hand, the rough-texture and mottled-colored roof is more suitable to semi-public buildings and residential work. However, such general statements have their limitations, and, after all, the good taste of the designer determines the result.

All smooth monotone-colored roofs are not successful in application, and the designer should learn to feel their fitness. For instance, the asbestos shingle of smooth, plain red color is very ugly in most cases, for its texture is uninteresting and its color thirsty dry. When such a roof is placed on a country house, its very slickness causes an irritating sense. For that reason the manufacturers of asbestos shingles have been obliged to make a rough-edged shingle in varieties of colors. But it is possible to use the smooth asbestos shingle to good advantage on buildings with a certain trimness of finish. In fact, the designer has the same problem to select the texture of the roof that the actor has in selecting the right kind of a hat for his characterizations. To place a slick, smooth silk hat on a tramp is incongruous, in the same way that a broken straw "lid" appears ridiculous on a man in dress suit. Buildings have characters and roofs have characters, and it is the designer's duty to fit them together properly. For an accessible classification of materials along these lines the following is suggested:

A. Smooth Texture and Monotone Color

1. Wood shingles, dimension and plain, stained or painted in monotone.
2. Slate, cut smooth and sharp and culled for uniform shape and color.
3. Clay tiles of shingle pattern of uniform color.
4. Asbestos shingle of the smooth variety.
5. Metal shingles of shingle type.
6. Cement shingles.
7. Ready-roofing shingles.
8. All kinds of metal roofing.
9. Ready roofing.
10. Canvas decking.
11. Corrugated roofs in large sheets.

B. Rough Texture and Mottled Colors

1. Hand-split shingles or shingles dipped in various-colored stains and applied at random. Imitation thatch.
2. Rough-cut slate laid in the European fashion with a skilful blending of different colors and gradation of sizes.
3. Clay tiles of varied colors or special designs, as French, German, Imperial, etc.
4. Rough-edged asbestos shingles with skilful blending of varied colored units.

Having selected the roofing material according to the artistic needs of the design, the next thing that the architect must consider is the correct designing of his roof framing to support it in safety. He must consider the weight of the material, the weight of the snow load with the pressure of the wind. The wind-pressure varies with the slope, and the snow load with the pitch and climate. On an average the increasing weight, due to the snow load as the pitch flattens, is balanced by the loss of weight, due to the decreasing load of wind-pressure, and can be considered to remain about thirty to forty pounds per square foot. This must be added to the weight of the roofing material itself, and also to the weight of the necessary foundation, such as sheathing-boards, felts, book tile, etc. To support this total load, the size of the roof-framing members must be calculated. It is therefore of great importance to have a tabulated list of the various approximate weights of different roofing materials as applied to the roof. Such tables are scattered and are often difficult to find. The following is offered as a collective bit of information along this line:

A. SHINGLE TYPES

1. *Wood shingles:*

LENGTH	WEATHER-GAUGE	WEIGHT LBS. PER SQ. FT.	
		Cedar	Pine
14″	4″	2.1	2.33
15″	4½″	2.0	2.22
16″	5″	1.92	2.13
18″	5½″	1.97	2.18
20″	6″	2.0	2.22
22″	6½″	2.03	2.26
24″	7″	2.06	2.29

2. *Slate shingles:*

3/16″ thick	6.5 lbs. per sq. ft.
¼″ "	8.75 " "

3. *Clay tile:*

Plain, ordinary shingle type 6″ x 13½″	11.0 lbs. per sq. ft.
Ludowici type	
Spanish	9.5 " "
Imperial German	9.2 " "
" closed shingle	8.5 " "
" English	10.0 " "

Add 2 lbs. for tile laid in cement mortar.

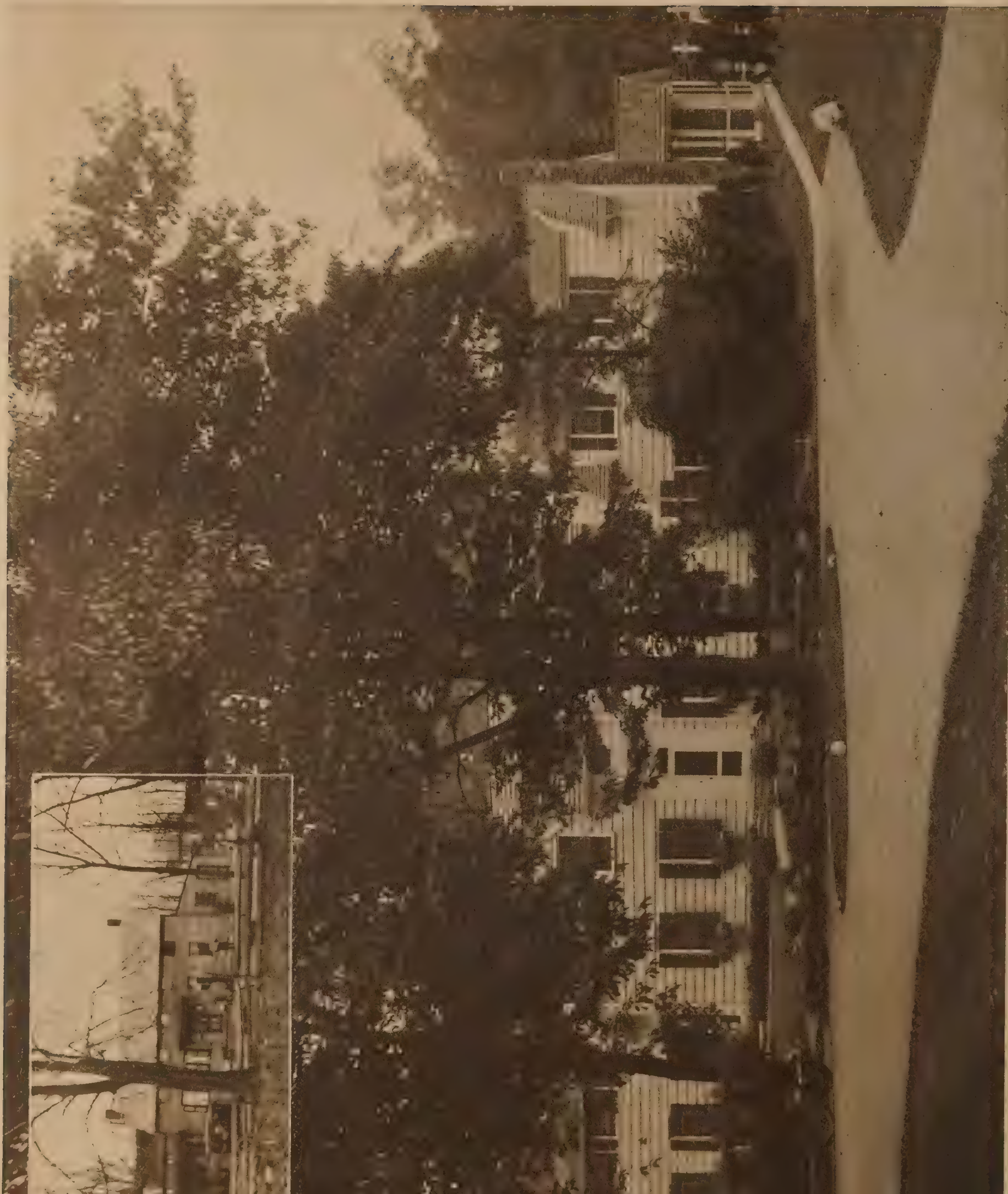
4. *Asbestos shingles:*

LIGHT WEIGHT	
16″ x 16″	2.61 lbs. per sq. ft
12″ x 12″	2.72 " "
8″ x 8″	3.00 " "
HEAVY WEIGHT	
16″ x 16″	4.16 lbs. per sq. ft.
12″ x 12″	4.32 " "
8″ x 8″	4.8 " "
8″ x 16″	4.16 " "
6″ x 12″	4.32 " "
4″ x 8″	4.8 " "

5. *Metal shingles:*

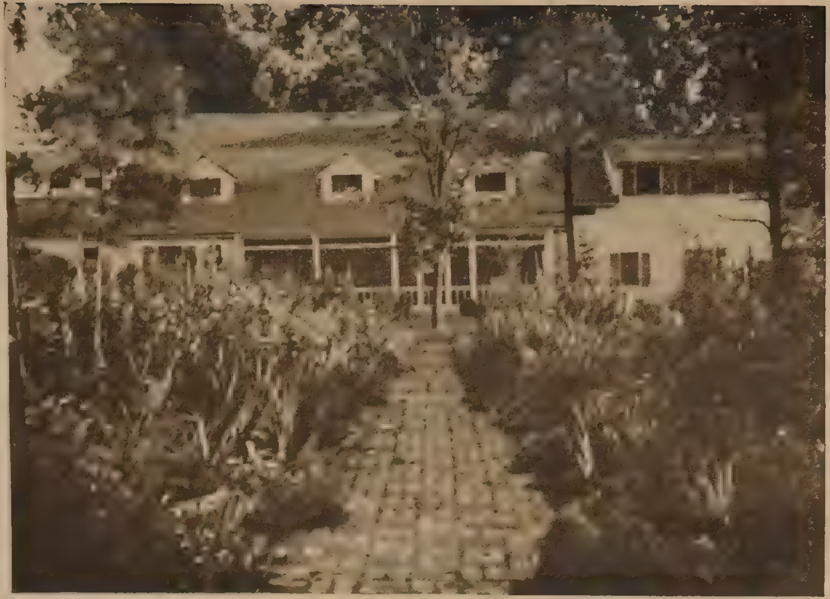
Tin... 1.2 lbs. per sq. ft. Copper... 1.75 lbs. per sq. ft.

(*Continued on page* 340.)

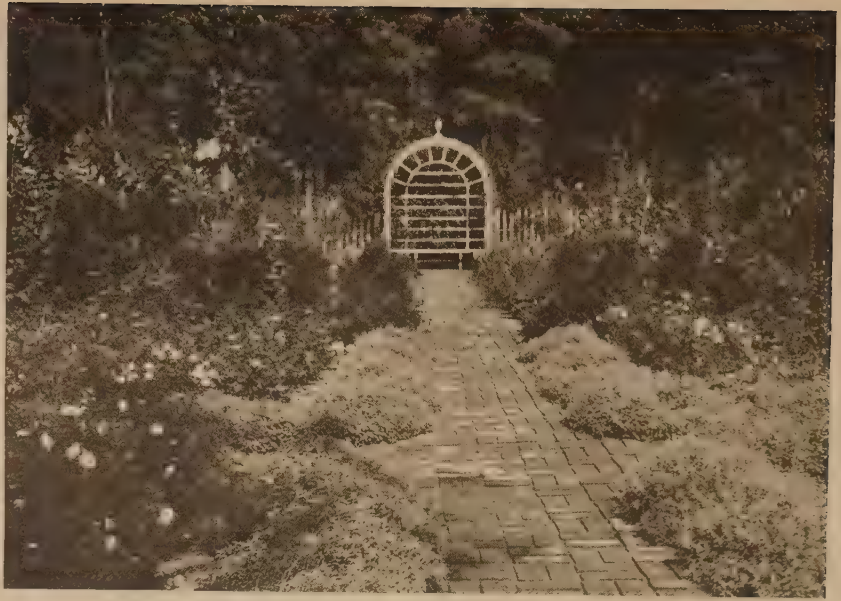


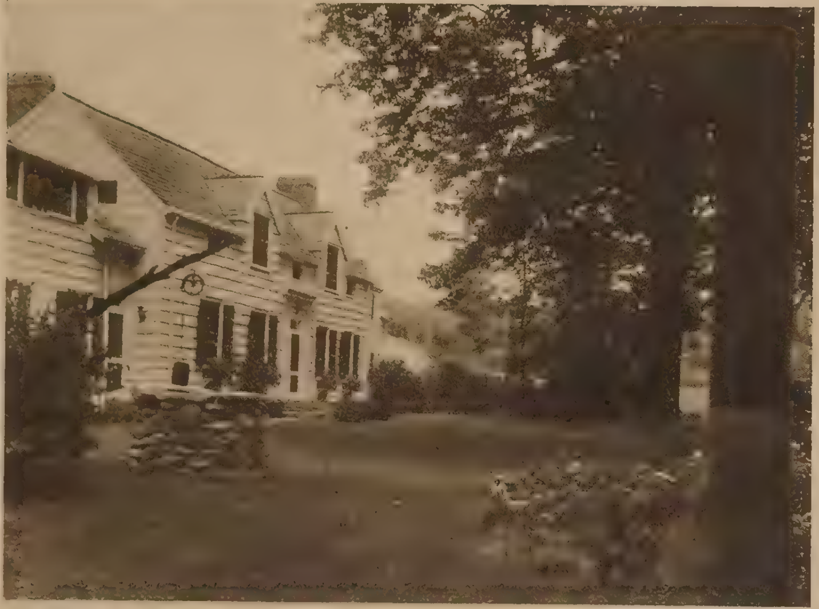
HOUSE. J. HARRY ALEXANDRE, GLEN HEAD, LONG ISLAND (ALTERATION)

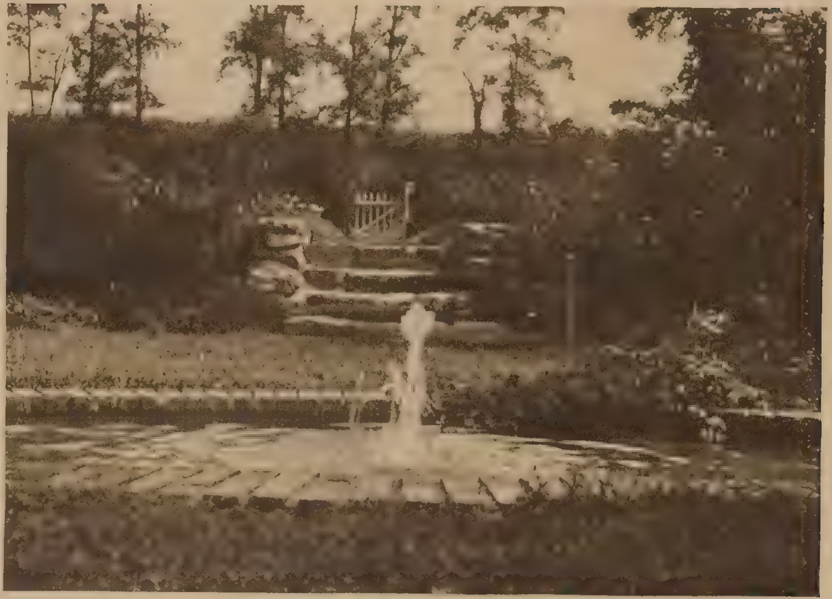
Warren & Clark, Architects. Marian C. Coffin, Landscape Architect.



REAR.







DETAILS IN GARDEN.

Warren & Clark, Architects. Marian C. Coffin, Landscape Architect.

HOUSE, J. HARRY ALEXANDRE, GLEN HEAD, LONG ISLAND (ALTERATION)

6. *Cement-tile shingles :*

Factory type 26″ x 52″	14.5 lbs. per sq. ft.
Other types	16.0 " "
Hollow type	25.0 " "

7. *Ready-roofing shingles :*

Average	3.5 to 4.0 lbs. per sq. ft.

B. SHEET TYPES

Tin roofs standing and flat seam	1.0 lbs. inclusive of felt
Copper " " " " "	1.5 " " " "

Ready roofing:

1 ply	3.5 lbs.	2 ply	4.5 lbs.	3 ply	5.5 lbs.

Corrugated iron:

Gauge No. 26	1.	Gauge No. 20	1.9
" " 24	1.3	" " 18	2.6
" " 22	1.6	" " 16	3.3

Corrugated asbestos:

	3 ply lbs.	4 ply lbs.	5 ply lbs.
Gauge No. 28	1.29	1.57	1.86
" " 26	1.43	1.72	2.00
" " 24	1.72	2.00	2.30
" " 22	2.00	2.30	2.57
" " 20	2.28	2.57	2.86

C. PLASTIC TYPES BUILT-UP ROOFS

	5 ply lbs.	4 ply lbs.	3 ply lbs.
Tar, gravel, and felt	6	5.5	9.6

At the same time that the framing is being considered, the kind of foundation for the material to be fastened to must be considered. Ordinary shingles are laid on either shingle lath, spaced apart to receive the nails, or on ⅞″ sheathing-boards tightly covering the rafters. The latter is considered to stop circulation of air and develop dry rot in the shingles. Slate is laid on either of the above-mentioned foundations, although it is generally conceded that the best is tongued and grooved sheathing-boards covered with tar paper or felt. However, in buildings of fireproof or semi-fireproof character both slate and tile are laid on a foundation of porous book tile, concrete, or on sheathing-boards nailed over such a base, or are fastened directly to stripping on the framework by copper wires. But it is always best to give a solid continuous base, so that the tiles can be fastened by copper nails, and some form of tar paper or asphalt base used between to prevent wind suction. Practically the same precautions hold true for asbestos shingles. Ready-roofing shingles must be nailed to continuous sheathing and separated so that expansion and contraction can be permitted. Large cement shingles are laid directly on the purlins and span between them.

Tin roofs require a good sheathing of white pine or spruce in narrow widths laid with tight joints. There is a difference of opinion as to whether or not sheathing-paper should be used, but if it is, it should be waterproofed, and no tar paper or other types containing any trace of acid should be accepted on account of their rust-producing action. Copper roofs are laid on the same type of foundation, although the kind of paper used is not as important.

Corrugated roofs of galvanized iron or asbestos or glass are generally laid directly on the purlins without any other foundation.

Built-up roofs of coal-tar, felt, and gravel are laid over wooden sheathing or concrete, the latter of course making the best foundation.

With the above facts settled upon, the problem next to consider is the collection of the necessary data on the construction requirements of the roofing material itself. This information is for detail drawings and specifications and must be secured with this end in mind. It would be impossible to include all the details of construction for each type of roof in this short article. After the selection of the roof has been made, much of this information is easily found in circular advertisements sent out by the manufacturers.

As a final check upon the selection of a roofing material, the architect must consider the fire hazards to which his building is exposed. This is a most important practical consideration and may upset all of his previous artistic attempts when considered entirely from a matter-of-fact point of view. Buildings in large cities are limited more by these fire conditions than in isolated positions. In fact, many city ordinances have definite regulations covering the subject.

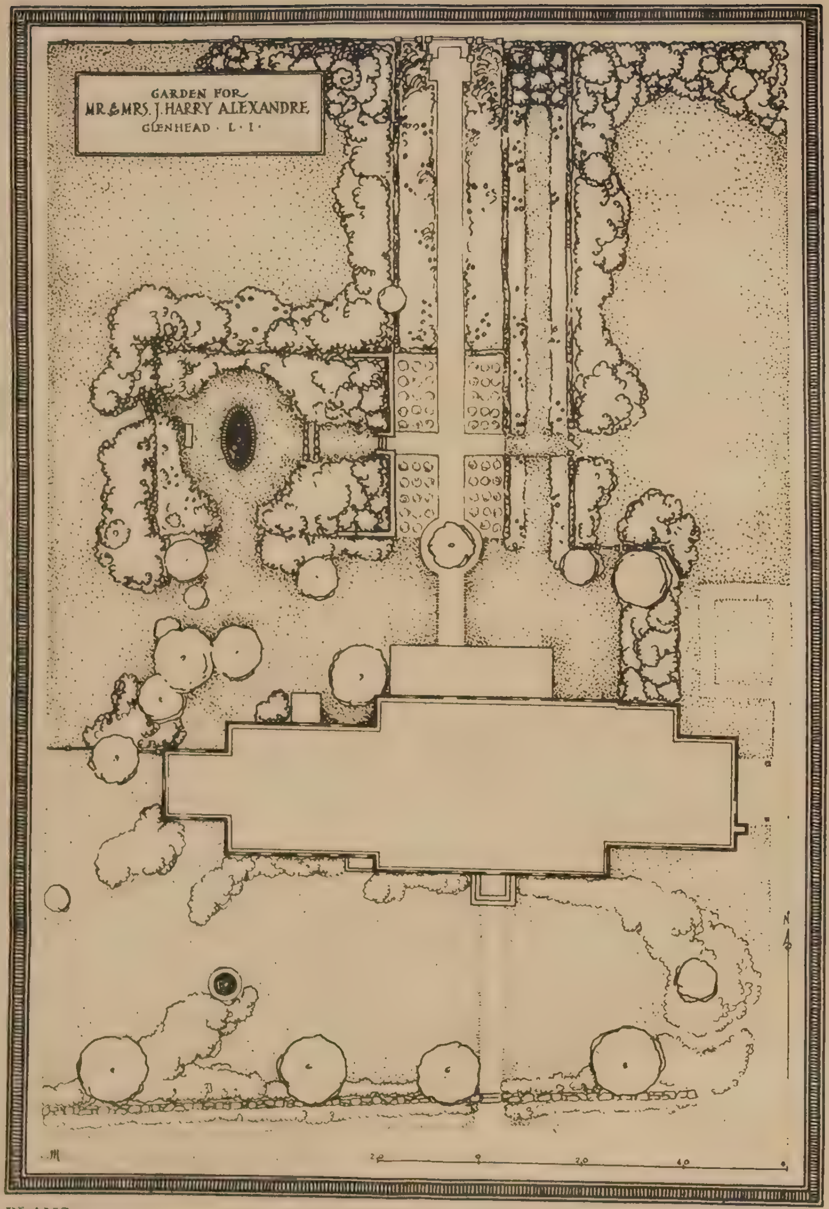
The usual fire test for a roofing material provides that it shall withstand the attack of burning firebrands for five minutes with a wind-pressure of five miles an hour without ignition of a clear dry white-pine decking beneath it, and shall not crack and expose the decking, nor slip badly, nor convey nor communicate fire badly, nor produce a serious flying-brand hazard when thus exposed. The test is made with a sample at the maximum angle of inclination advocated in practice. The brand consists of ten strips of hardened maple two inches square and three feet long, formed into a grid with a space of one and three-quarter inches between them. This brand is ignited and burning when placed on the sample. Of course this test is very crude, and by no means indicates the most severe conditions. The Underwriters' Laboratories have a more complicated and technical test which runs something as follows: Flame-exposure, burning-brand, and heat-radiation tests, each at wind velocities of five and forty miles per hour. Also tests to determine the effect of fire-streams, physical and chemical tests, investigations of practicability, durability, and uniformity. Results of these tests can be found in the report of the Underwriters.

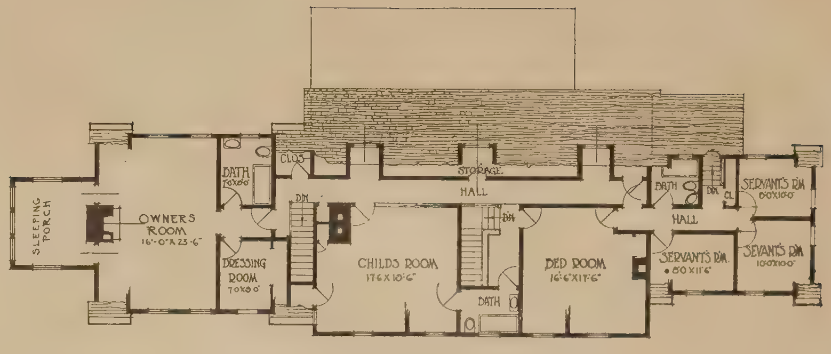
It has been recommended that all buildings except dwellings, frame buildings, and buildings not exceeding two stories and 2,500 square feet area, not used for factories, warehouses, or mercantile purposes, should have roofs of brick, concrete, tile, or slate, or the highest grade of tin roofing, or of asbestos shingles, or of built-up asbestos roofing, or other roofings of like grade which would rank as class *A* or *B* under the test specifications of the National Board of Fire Underwriters. And that the roof of the above exceptions be of such a type as to rank in class *F* of the above tests.

The same board recommends that a layer of deadening felt at least one-sixteenth of an inch thick be placed between the metal roofing and the supporting woodwork in order to prevent quick ignition of the wooden decking when the roof is exposed to burning brands or radiated heat. Under the same conditions, it is advocated that any roof having a pitch over sixty degrees on any building over forty feet in height, except towers or church spires, should be constructed of steel framework filled with fireproof material not less than three and one-half inch thick and be covered with an approved roofing material.

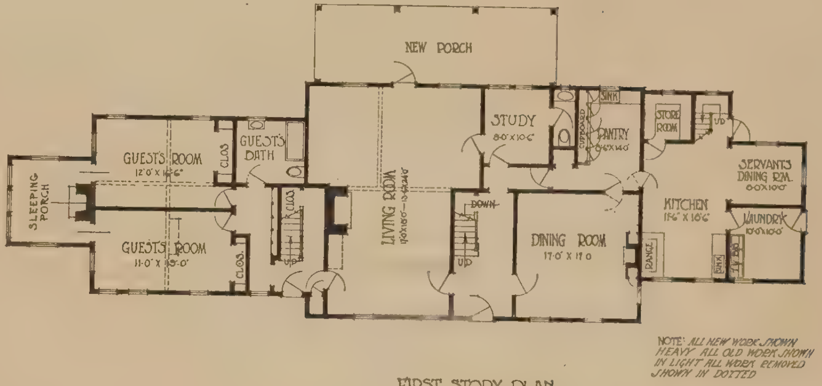
As for durability, it is generally conceded that for sloping roofs slate and clay tile make the best, if of good quality. However, slate breaks easily and so does tile, although the latter is somewhat stronger; but falling limbs of trees and stones thrown by children will generally cause trouble. Tile, on the other hand, does not make as tight a roof as slate. Asbestos shingle can be laid tighter than slate and is very durable in comparison. Cement shingles are too brittle for small sizes, but are quite durable in the larger sizes when they are reinforced. Wood shingles have not much merit for durability either in the weather or against fire hazards.

(*Continued on page 342.*)





SECOND STORY PLAN


NEW PORCH
SLEEPING PORCH
GUEST'S ROOM 12'0" X 14'-6"
CLOS
GUEST'S BATH
CLOS
GUEST'S ROOM 11'-0" X 15'-0"
CLOS.
UP
LIVING ROOM 17'0"X 18'0" – 13'-6"X 24'0"
DOWN
UP
STUDY 8'-0" X 10'-6"
CUPBOARD
SINK
PANTRY 8'-6" X 14'-0"
DINING ROOM 17'-0" X 17'-0"
STORE ROOM
UP
KITCHEN 11'-6" X 16'-6"
RANGE
SINK
SERVANTS DINING RM. 8'0"X 10'0"
LAUNDRY 10'0"X 10'0"
NOTE: ALL NEW WORK SHOWN HEAVY ALL OLD WORK SHOWN IN LIGHT ALL WORK REMOVED SHOWN IN DOTTED

FIRST STORY PLAN

PLANS.

Warren & Clark, Architects. Marian C. Coffin, Landscape Architect.

HOUSE, J. HARRY ALEXANDRE, GLEN HEAD, LONG ISLAND.

Copper roofs are the most durable type, for our climate, of the metallic roofs. It has been argued that lead roofs would compete well with them, but due to the creeping of this type of roof and also its low melting point, it has never become very popular in America. Tin roofs are durable, if they are kept thoroughly painted and are originally of a good brand of tin, but the maintenance problem is a real disadvantage. Galvanized iron roofs are best only for small temporary buildings. As for metal shingles of tin or galvanized iron, there is not much to favor them from a point of view of durability or art. Ready roofing materials generally give better results on pitches over three inches to the foot, but they are after all only temporary types of roofs, and should be used only on small inexpensive buildings.

For flat roofs it has been found that built-up roofs of coal-tar reinforced with felt and covered with a protecting coat of gravel, slag, or tile are the best. Coal-tar is generally considered better than asphalt, because it requires less expert skill to handle, and is cheaper. The kind of felt used has much to do with the durability. The felts on the market are made of rags, and consist mostly of cotton. Certain felts are made with asbestos, but these are not suited for coal-tar although unaffected by hot asphalt. The chief function of the felts is to reinforce the coal-tar pitch, but not to protect it, so that, where the roof is subject to wear, it ought to be protected by a covering of flat tile or brick instead of the usual gravel or slag.

As a final conclusion, the old question comes up, "What is the most important thing in a building next to the foundation?" Surely it is the roof, and the best roof is the cheapest in the end, even though it costs more in the beginning, and many a roof leaks because it was not flashed properly.

The First Pan-American Congress of Architects

THE Organizing Committee has announced that the first Pan-American Congress of Architects will meet March 1, 1920, at Montevideo. The architects of all the Americas are invited to attend and to exhibit their work, and the presence of the presidents and faculties of all schools of architecture is especially desired. The chief purposes of the long-planned convention are the demonstration of American architectural advancement, the discussion of artistic and technical development, and the increase of professional solidarity. Both practising and student architects are eligible as exhibitors, and prizes will be awarded to architects, schools, or faculties, and individual students in accordance with the decisions rendered by a chosen International Jury composed of professors of architecture.

The work of architects for exhibition are comprised in the following classification:

First, Projects of public buildings and monuments.
Second, Projects of private buildings and monuments.
Third, Projects of decoration.
Fourth, Details and motives of architecture.
Fifth, Works upon the history of architecture in America.

The projects mentioned in the first two classifications must be presented with their plans, frontage, and sections. They may or may not correspond to buildings already finished. When dealing with completed buildings, the exhibitor may present photographs of frontages or interiors to complete his idea. Details and perspectives will be admitted.

The projects of decoration mentioned in the third category must be composed of all the parts necessary for their clear understanding. Details and motives of architecture referred to in the fourth category may be presented in the form considered best, and photographs will be accepted in order to complete subjects. Studies upon the history of architecture may be presented in accordance with the best judgment of the exhibitor.

All exhibits must deal with buildings or monuments already constructed or to be carried out in America.

Exhibits must have the name and address of the exhibitor as well as its destination written clearly, and must be delivered to the Organizing Committee at Montevideo not later than February 10, 1920.

There will be established one or more Grand Prix D'Honneur with Gold Medal for the best projects corresponding to the first three categories of works, Gold Medals, First Mentions with Silver Medals, Second Mentions with Silver Medals, and Merit Diplomas for every one of the five categories.

Work of students which has been done in the schools under the direction of the professor and with his approval is eligible, providing it has been completed within the term in which programmed, and is accompanied by such programme. The signature of the professor and of the student and the date must also be upon the work.

One or more Gold Medals for the best works presented by each school or faculty, and Silver Medals, First Mentions, and Merit Diplomas for the best works of each course.

Concrete Aggregates

The result of a series of fire tests of more than one hundred full-size building columns made jointly by the National Board of Fire Underwriters, the Associated Factory Mutual Fire Insurance Companies, and the United States Bureau of Standards resulted in the following recommendations:

"1. That for fire-resistive construction, limestone, trap rock, blast-furnace slag, and well-burned clay be given a preference over highly siliceous gravels.

"2. That in cases where gravel aggregate is to be used, with no additional protective material over the concrete, round columns be given a preference over rectangular ones.

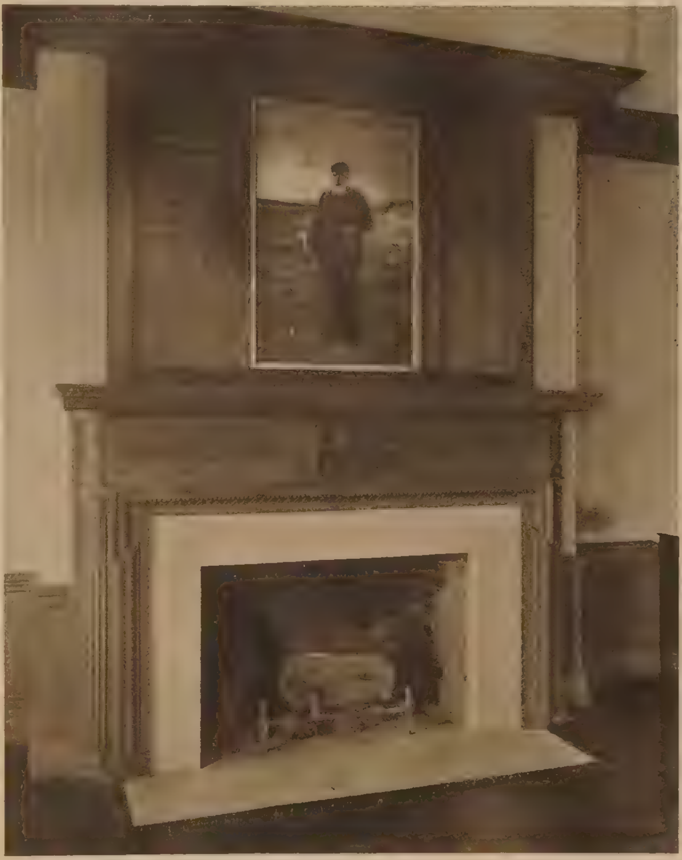
"3. That where gravel aggregate is used, all columns, but especially rectangular columns and round columns with spiral reinforcement, be given the additional protection of approximately one inch of Portland cement plaster either on metal lath or reinforced by light expanded metal."

The Blind Brook Club

By Frank A. Moore, Architect

SOME ONE has said that it is the function of the architect to produce in a building breadth, centrality, blitheness, and repose, and this is what the governors of the Blind Brook Club and the architect have endeavored to produce in the club-house situated on the high rolling ground of Westchester County overlooking Long Island Sound.

The club is a proprietary club, with one hundred and fifty members (all more or less favoring the breadth, centrality, blitheness, and repose idea), and the suggestion of organizing such a club originated with a few men who had enjoyed and appreciated the advantages of the Old Elm Country Club of Fort Sheridan, Illinois, also a proprietary club of limited membership, where it was found the links were never crowded, and where members and their guests could arrive at any hour of any day in the week and enjoy the great game of golf without being obliged to register twenty-four hours in advance a desire to play at a certain set time, nor being further moved to register a complaint at the finish of their game that they had been "held up all the way round," which is the condition existing in so many of our ever-increasing popular golf clubs.



The club-house itself is ideally situated at the highest part of the club property, and overlooks the entire golf course, with the first and tenth tees both located a few yards from the house. While the general design of the club-house may be said to be Italian, the building has been executed with freedom from limitations imposed by existing Italian buildings in so far as the demands for modern requirements, up-to-date conveniences, and present-day materials have all been carefully considered and made use of to obtain a desired result with symmetrical and carefully balanced exterior elevations, not too rigidly stiff or formal. The building is substantially constructed of terra-cotta blocks, stuccoed with a warm gray stucco finished with a rough enough surface to show a decided texture and to tone in well with the tile roof, which also has a rough texture appearance, laid with tile of eight or ten different shades of a dull red, and giving a pleasant coloring similar to that of old velvet.

The interior of the club-house is arranged with a locker-room wing of generous dimensions, with ten bedrooms on the second floor above for members, the servants sleeping-rooms being at the other end of the building over the kitchen quarters. The accepted traditional heritage of most golf houses, a basement locker-room, has not been adopted, the locker-room being placed on the first floor, purposely made unusually bright and cheerful, and opening directly into the lounge-room through swinging half-doors. The steel lockers themselves are very commodious, and are arranged with double doors, being fitted up with various compartments for clubs, shoes, clothes, etc. Rubber-tile flooring in eight-inch squares of black and pearl gray has been introduced in the locker-room and lounge, and nothing has given more satisfaction to the members than has this resilient floor-finish that permits the wearing of hobnailed shoes, ad libitum, without the floor becoming marked or dented, or presenting such a hard surface as to invite one to suddenly assume an unexpected sitting posture. The marble shower-baths are arranged with small dressing-rooms on either side, and are unusually ample and commodious. The club has its own artesian-well supply, with deep well-pump and storage-tanks located in basement; also its own refrigerating plant.

The planning and arrangement at the service end of the building for the kitchen, pantries, servants' and chauffeurs' dining-rooms and servants' bedrooms, and at the locker-room end of the building for the professionals' quarters, has been given careful consideration. A generous service yard properly enclosed and tied into the main building by a harmonious wall also combines with the caddy house, making the entire layout a complete unit.

The Blind Brook Club is the owner of a most interesting full-length oil-painting of one of the most celebrated golfers known, painted from life. It is framed in the panelling over the dining-room mantel, and the inscription, which is part of the setting, is as follows:

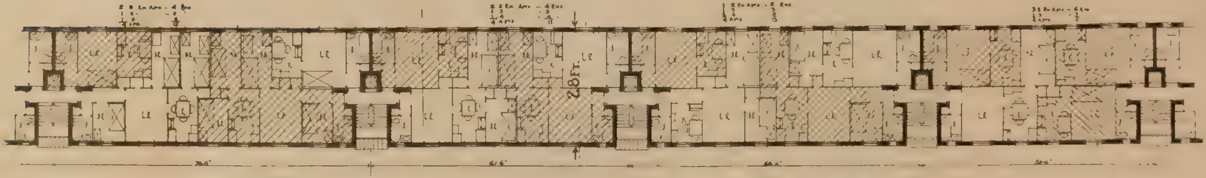
TOM MORRIS

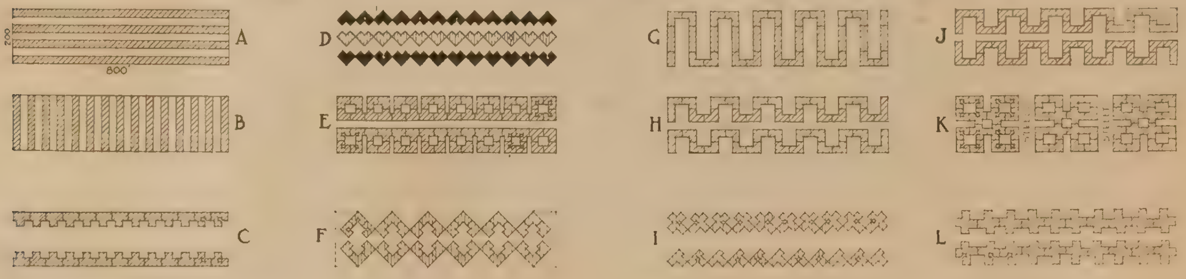
STANDING IN FRONT OF BUNKER KNOWN AS DEVILS KITCHEN
WITH HELL BUNKER BEHIND HIM AND AULD GREY CITY OF
SAINT ANDREWS AFAR

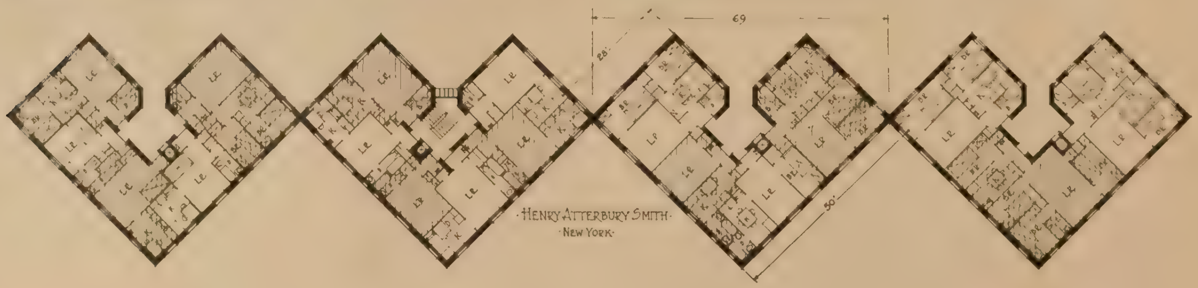
Comparison of the Various Types of Plan Adapted to Block Formation, Block Size 200 x 800

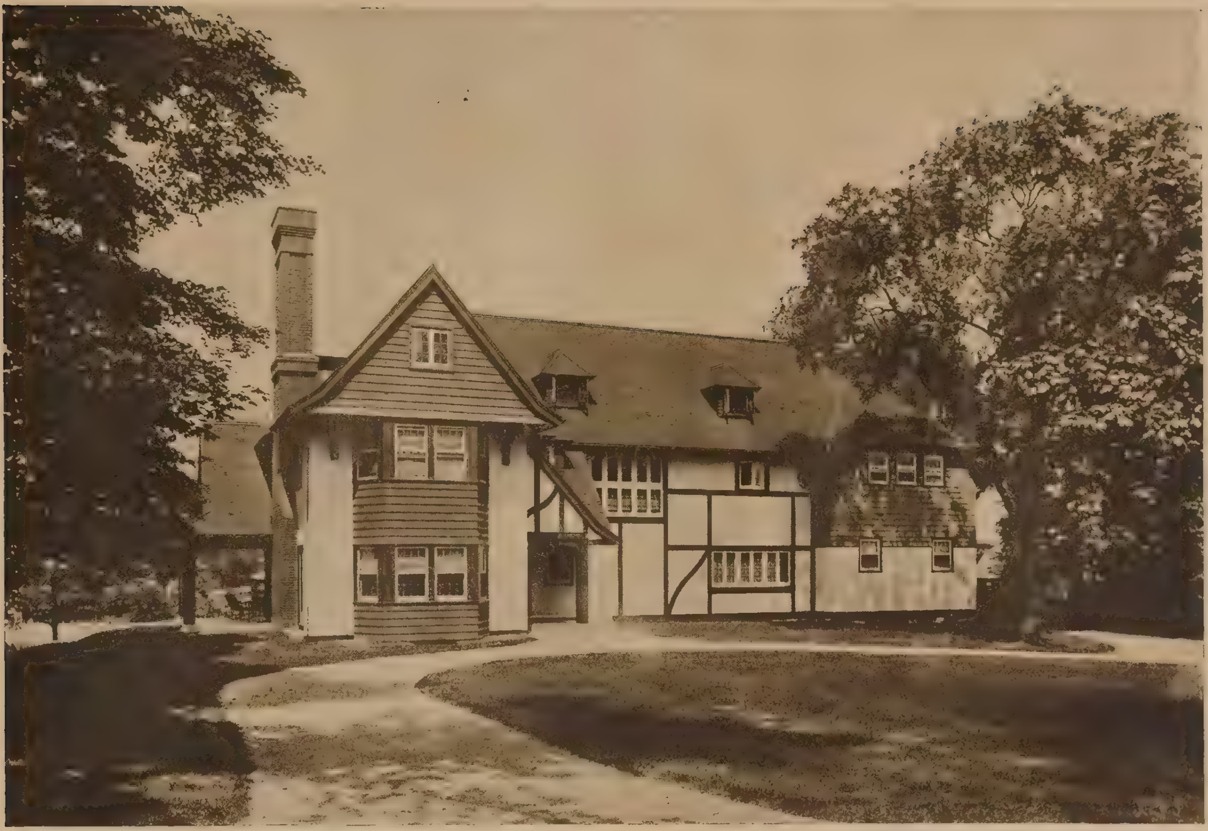
By Henry Atterbury Smith, Architect

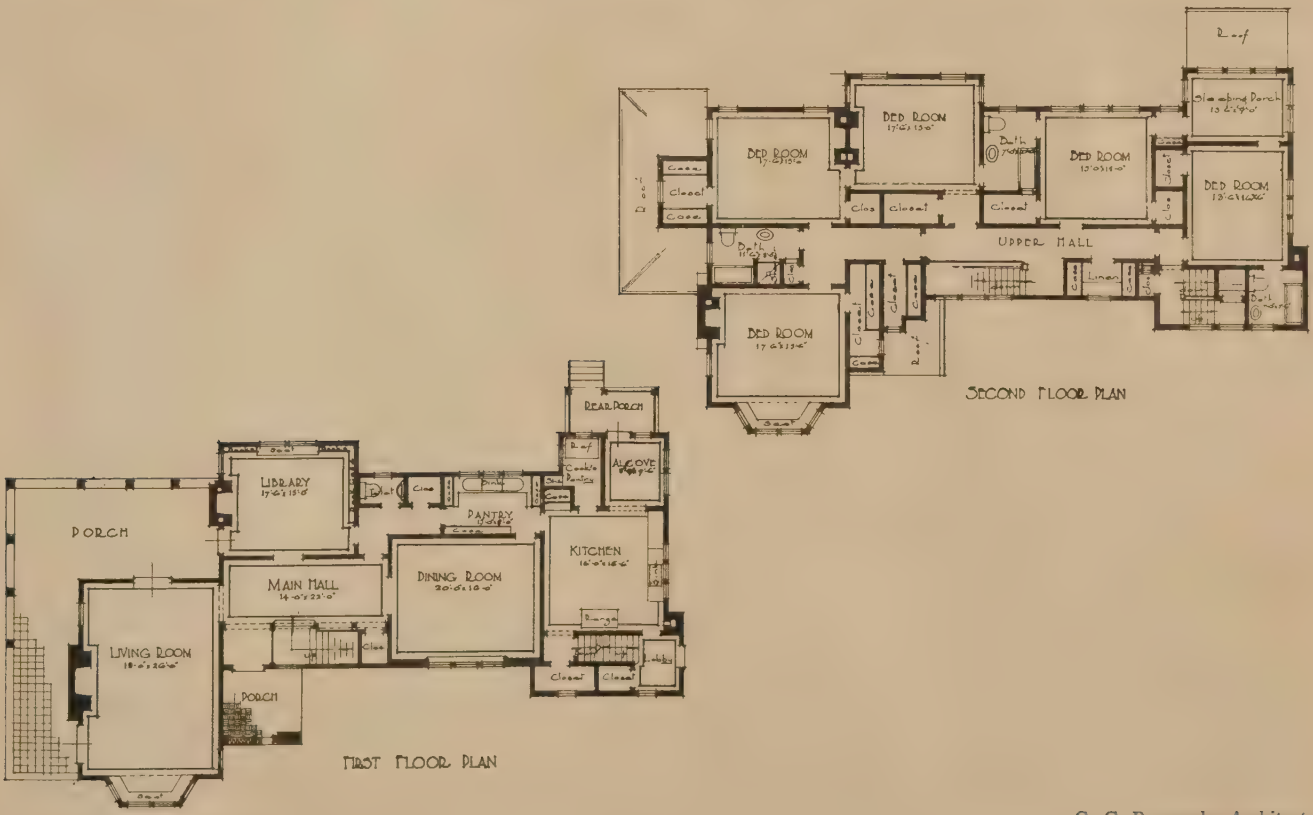
PLAN	NUMBER OF FAMILIES	NUMBER OF STAIRWAYS	PERCENTAGE OF LOT COVERED	PERIPHERY
A	192	48	56 per cent	6,624 feet
B	180	45	52 per cent	6,840 feet
C	143	26	37 per cent	4,456 feet
D	192	36	45⅓ per cent	7,200 feet
E	294	64	70 per cent	7,244 feet
F	162	36	36 per cent	4,766 feet
G	152	33	47 per cent	5,440 feet
H	200	40	50¾ per cent	5,908 feet
I	125	21	40 per cent	5,810 feet
J	200	40	50¾ per cent	5,908 feet
K	240	48	61½ per cent	6,390 feet
L	140	20	49 per cent	5,712 feet











HOUSE AND PLANS, FRED VON STEINWEHR, CINCINNATI, O.

G. C. Burroughs, Architect.

Modern Building Superintendence

By David B. Emerson

CHAPTER IV

CUT STONE, ORNAMENTAL TERRA-COTTA, AND BRICKWORK

THE base course around the building on all of the street fronts was specified to be granite from the quarries at Concord, N. H., to be dressed six cuts to the inch on all exposed surfaces, except the steps at the entrances, which will be eight cuts to the inch. On delivery at the building the granite was inspected to see if it was cut according to the dimensions on the drawings and if the face cutting was as fine as called for in the specifications. Also it was examined to find if there were any seams, any black or white lumps called knots, seams with discolored edges called shakes or brown stains called sap, any of which would be cause for the rejection of the stone. Bed joints were tested to see if they were worked hollow or slack on the back of bed, and if in all cases they were at least three inches wide. Seams were easily detected by tapping the stone with a hammer. One suspicious-looking piece was found to have been fractured and patched.

Patching was done by sticking a piece of stone on the fractured piece by means of shellac, and then rubbing stone dust into the joints to make a smooth, even surface. This patched piece was condemned and ordered to be replaced with a sound stone, as in time the weather would destroy the shellac and cause the patch to eventually drop out, leaving the broken stone. All cut stone was specified to be set in non-staining mortar, plastered on the back with the same mortar, and the first course in the backing up brick next to the facing stone should also be laid up by the bricklayers in the same mortar as is used by the stone-setters.

The cement selected was Atlas white cement, to be mixed in the proportion of one part cement, one-half part lime paste, and two parts clean sharp sand. The lime was first slaked with cold water and screened through a three-sixteenths-inch mesh screen into a settling-box. The lime putty was allowed to stand for at least one week, and then mixed with the sand and cement, and used for setting the stone. All sand was screened and washed before using. Care was taken to see that all stone was set in a full bed of mortar and that the mortar was kept back three-quarters of an inch from the face of the stone to allow for pointing. Joints were called for to be one-quarter of an inch thick. Wooden wedges were set in joints at the face of all stones to insure uniform joints; these wedges were not to be removed until the stonework was cleaned and pointed. All stone not easily lifted were ordered to be derrick set, and no Lewis holes were allowed to be made less than two and a half inches from the face of the stone, and where they would be entirely covered by the stone above.

The limestone was delivered at the building properly boxed and numbered according to the contractor's setting plans; stone was ordered to be set upon planks to keep it entirely clear of the ground until it was set. Before setting, all stone was inspected for evenness of color and for seams, holes, or cavities filled with sand, clay, or uncemented material. The exposed faces of all stones should be cut true, and all arrises should be full and true, and the front edges of all joints should be cut back one and one-half inches on all beds and joints; no false joints nor mitre joints were to be allowed. Every alternate course in the ashlar was bonded into the walls twelve inches, and every intermediate course was bonded eight inches into the walls. All stones in projecting courses were examined to see that in all cases the beds exceeded the projection of the stones beyond the face of the wall. Each stone was secured in place by means of two galvanized-iron anchors thirteen-sixteenths of an inch by one inch, turned up two inches in the brickwork and one inch down into the stone, and we insisted upon proper care being taken in the cutting of all anchor-holes, so that a good grip in the stone was given for all anchors. As the stone-setters never like to do this part of their work carefully, seeming to think anything will do so long as the anchor is there, a little insistence on the part of the superintendent is generally necessary to get proper results. Wherever it was deemed necessary, more than two anchors to a stone were called for, and in some cases the stones were ordered bolted down with galvanized-iron rods with square washers at the top and bottom. All window-sills were set with open under joints, to be pointed up at the completion of the building, so as to prevent cracking from settlement. All of the top joints in projecting courses and balconies were specified to be caulked with oakum, and pointed up with an approved plastic cement. As soon as the stone was set the foreman was ordered to protect all projections, top surfaces, and angles with proper boarding, thoroughly secured to the work, and to keep it protected until the completion of the building. All carved stone was to be boasted out ready for carving. This we inspected very carefully to see that in all cases sufficient material was provided to give the required relief to the carving. Great care was exercised to prevent splashing of the stone with mortar when setting it, and any mortar which may have been splashed on the stone was cleaned off before it had set. While the stone was arriving and being made ready for setting, the brickwork was started and carried up ready to receive the stone, and the stone was backed as rapidly as it was set.

All walls and piers in the basement, the backing up of all front walls, and the rear wall in the first story were of brick.

A number of loads of brick were delivered at the building. We looked them over as they arrived, and found them to be of good, even color and well shaped. By striking two together and finding that they gave a sharp, ringing sound, and repeating the process with a number of the bricks, they were found to be hard-burned.

The mortar for use in laying up the brick was specified to be composed of one part Portland cement and three parts good, clean, sharp sand, with the addition of ten pounds of hydrated lime to each bag of cement. The addition of hydrated lime, or lime putty, is a very good practice, as it renders the mortar more plastic, causing it to spread better, and also decreases its permeability to moisture. On large work in the city hydrated lime is more convenient than lime putty, as it does not have to be slaked ahead, and a large amount of space does not have to be given up to stirring the lime paste while it is seasoning. Before laying, all brick should be thoroughly wet. There are four good reasons for the wetting of brick before laying: first, the bricks will be better bedded on the mortar under them; second, they will adhere to the mortar better; third, a dry brick soaks water out of mortar very quickly, and mortar will not set properly unless it dries slowly; fourth, wetting the brick washes the dust from them, and clean brick offer the best surface for mortar to adhere to. In wetting brick be careful not to wet them to a point where they will run out of place when laid in the mortar. Particular attention was paid while the brick were being laid that they were laid to the line, that the walls were plumb and true, and that all brick were well bedded and slushed up with mortar. We were just in time to catch one of the bricklayers doing what is a common and a very bad practice on steel-framed buildings, that is, in bricking up around the wall columns, to lay up the outside brick several courses high, one course thick, bonding into the wall, and then filling the interior space around the columns with brickbats and mortar thrown in at random. This work was ordered torn down and rebuilt in a proper manner, all brick being properly bonded and built in around the columns. The walls above the second story were to be of hollow tile eight inches thick, faced with four inches of brick, and bonded together with special header backer tiles, bonding every sixth course of brick. This type of wall has several advantages over the solid-brick wall: first, the decreased weight, a square foot of solid-brick wall twelve inches thick weighing about one hundred and twenty pounds, whereas, a brick-and-tile wall twelve inches thick only weighs about eighty-seven pounds per square foot, which makes quite a reduction in dead load, thereby making it possible to use smaller wall girders, smaller column sections, and smaller grillage, materially reducing the steel tonnage; second, the hollow-tile wall makes furring unnecessary, as the plaster can be applied directly to the scarred surface of the tile, and the hollow tile makes an insulated wall which renders the building warmer in winter and cooler in summer. The walls on the three street-fronts above the third story will be faced with a selected front brick laid with a wide-cut joint. Window-sills, lintels, bell courses, and main cornice will be of matt-glazed terra-cotta. Before commencing to lay up face brickwork, the contractor should lay up a sample panel at least four feet square to determine the width of joints, etc. After this has been approved the work can commence.

We were very careful to see that the mortar for laying up of the front brick was mixed very stiff and with coarse sand to obtain joints of the required thickness; also care was taken that the ingredients in each batch were measured to obtain an even color in the mortar. The foreman was instructed to back up all face brick before quitting work, so that the mortar would not dry out a lighter color, nor its strength be decreased.

All terra-cotta was examined on its arrival for warped, kiln-cracked, crazed, surface-checked, chipped, or painted pieces. A few were found which were checked and cracked, they were condemned, and the contractor was ordered to replace them with perfect material without delay. The top joints on all sills, bell courses, and the main cornice were raised. All terra-cotta was anchored back into masonry with galvanized wrought-iron anchors, ties, and bolts. All portions of the terra-cotta inside the face of the walls were filled solid with bricks and mortar, but care was taken that no part of the terra-cotta which projected beyond the face of the walls should be filled.

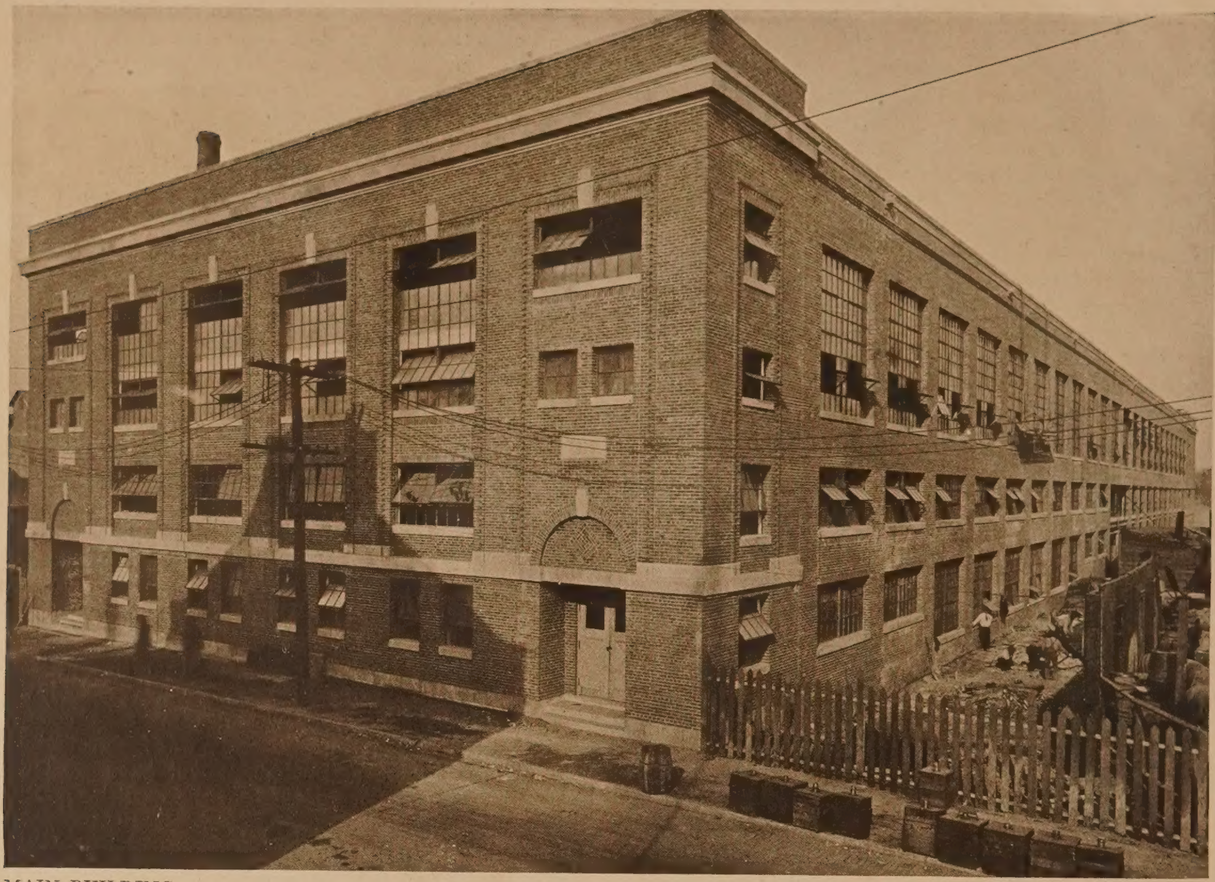
The window-frames were set as the walls were laid up, care being taken to see that they were plumb and in line and that they were properly stayed. In the case of tall frames we ordered spreaders put in between the sides of frames to keep the brickwork from bowing them in.

Brick and terra-cotta were pointed up, as the work was laid, and left ready for cleaning down at completion. When the walls were up a few stories and the floor slabs had set and the forms had been removed, the work of setting the terra-cotta partitions and wall furring was commenced so that there would be no delay in the work, and that as soon as the building was enclosed and the roof covered, the plastering could be commenced.

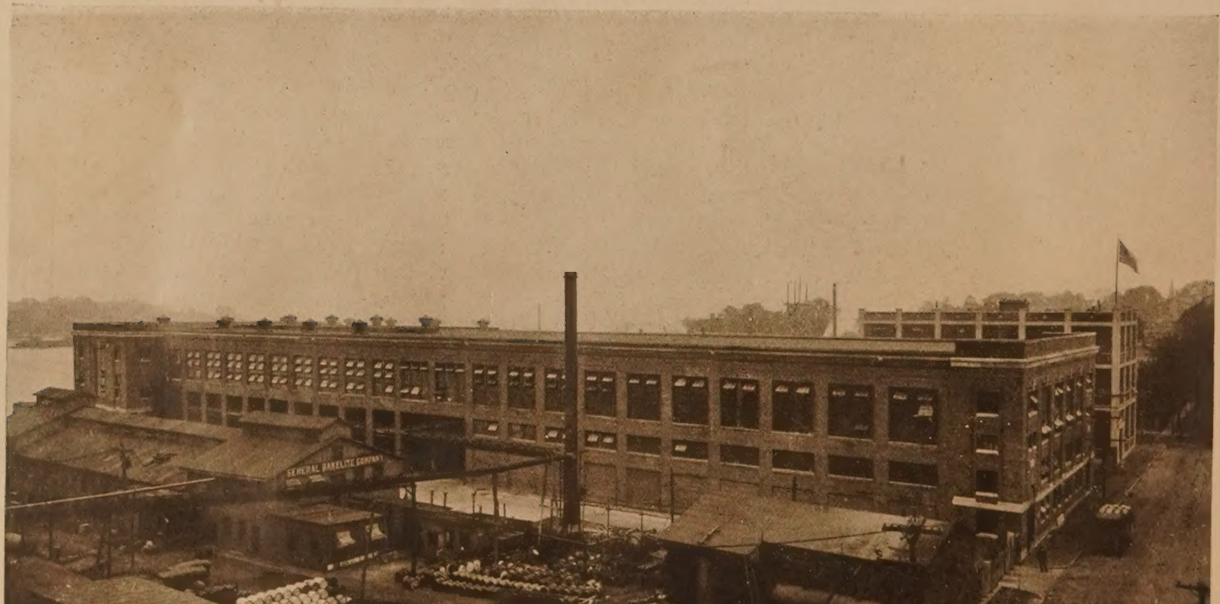
To give architectural effect, and also to keep out the dampness, the walls in the first story were to be furred with hollow-tile furring blocks. The blocks should be anchored to the walls with galvanized-iron anchors. All pipe and conduit will be furred around, and the furring which runs around pipe will be tied back to the wall with galvanized-iron ties. Wherever the furring is run over window-heads, the contractor must set angle-iron lintels to carry the furring; lintels must be painted to prevent rust from staining the plaster. All partitions, except some special partitions in the basement and in the banking-rooms, will be of hollow, porous terra-cotta blocks laid in cement mortar, and anchored together with galvanized-iron ties. All blocks should be examined to see if there are any cracked, warped, or soft blocks among them, which must be condemned. See that the blocks are thoroughly wet before laying. All openings for doors and windows will have steel channel backs, as wide as the thickness of the partitions; the sides of the bricks must butt against the head-pieces, which will build into the partitions one foot on either side of the opening. The bricks must be tapped to fasten the frames and trim to them. Where the bricks are not covered by the trim they must be lathed over with metal lath to prevent the plaster from cracking.

The walls having been topped out, the parapet walls built and coped, the next important step in the construction of the building is the laying of the roof, which in this particular case will be of flat promenade tile. Before laying the roofing, the roof slab should be thoroughly cleaned off, and all slopes and crickets formed with cinder fill, composed of one part Portland cement, two parts sand, and ten parts clean, strained cinders. We inspected the cinders carefully to see that they contained no ashes, and ordered them thoroughly washed to remove all sulphur and dirt. The cinder fill was given a screed coat of cement mortar one inch thick to level it off, and all rough places in the roof slab were levelled off with cement mortar, so as to make a good, smooth surface for laying the roofing felt. The entire roof surface was given one good coat of hot-coal tar pitch well mopped on. On this coat of tar was laid five layers of heavy saturated roofing felt; each layer was coated with hot-coal tar pitch, and each sheet was lapped one-fifth of its width, and the joints cemented one-third of their width with the pitch. The junctions of the roof with all vertical surfaces were flashed with sixteen-ounce soft-rolled copper, the flashing was laid in between the third and fourth layer of felt, and extended out not less than four inches on the roof, and was carried up twelve inches on all vertical surfaces. The flashings were all cap-flashed. We were careful to watch and see that all cap-flashings were built a full four inches into the walls and turned down not less than three inches over the flashings. The sheets of copper which formed

(*Continued on page* 350)



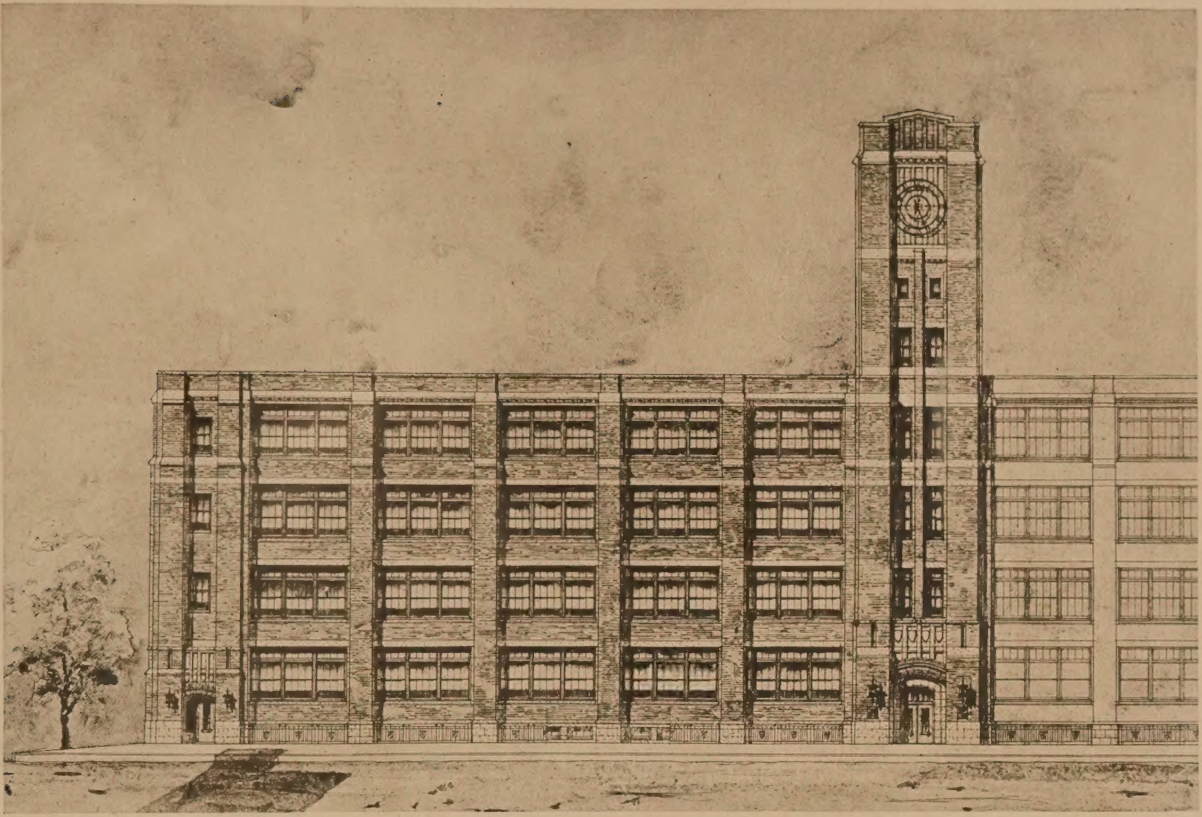
MAIN BUILDING.



GROUP

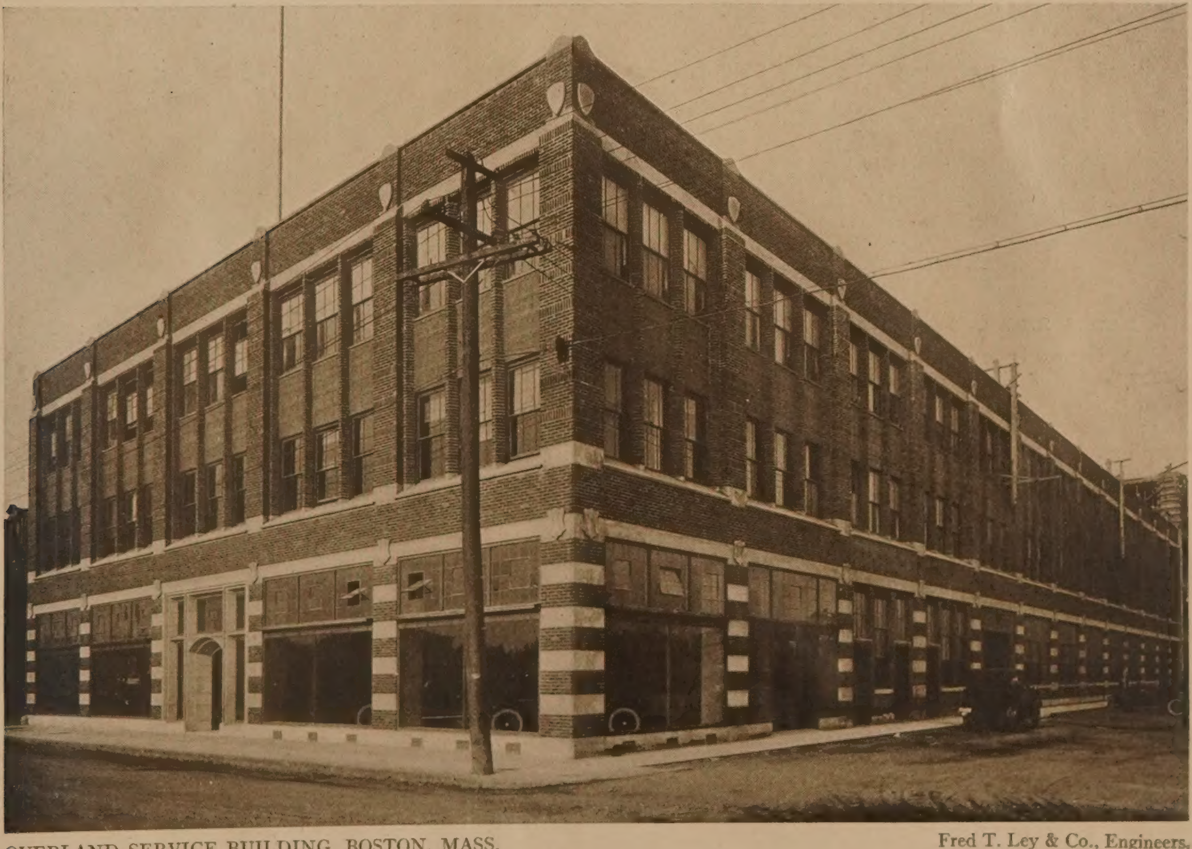
ROESSLER & HASSLACHER CHEMICAL CO., PERTH AMBOY, N. J.

Stone & Webster, Engineers.



HOLEPROOF HOSIERY COMPANY OF CANADA, LTD., LONDON, ONTARIO. Lockwood, Greene & Co., Engineers.

The new building for the Holeproof Hosiery Company of Canada, Ltd., will be constructed of gray brick with limestone trimmings in a modern Gothic style. The cut shows a rendering of one-half of this building.



OVERLAND SERVICE BUILDING, BOSTON, MASS. Fred T. Ley & Co., Engineers.

the flashings were put together with a lock joint and soldered; the edges of all sheets were tinned before soldering, so that the solder would hold better. The tile was laid on top of the felt, and was well bedded in cement mortar. They were butted up close against all flashings. The connections to rain-water leaders were made by means of patent roof connections with cast-brass strainers and expansion joints, which are far superior to the old-time copper scuppers and spouts. All of the penthouses around stairways, elevators, and tanks were built up of hollow terra-cotta blocks in angle-iron framing. The outside walls were plastered three coats of waterproofed cement stucco. The mortar for plastering was composed of one part Portland cement, three parts sand, with the addition of ten pounds of hydrated lime to each bag of cement. We were obliged to watch this part of the work very closely to see that the mortar was properly mixed and that only a small quantity was mixed at a time, the cement, sand, and lime being mixed together dry and then wet, and the whole turned over until it reached a uniform color and consistency. No mortar which had been mixed over thirty minutes was allowed to be used, and no mortar was allowed to be retempered under any circumstances. The building was now ready for plastering and the laying of the tile and mosaic floors.

(*To be continued*)

Book Reviews

The Foundations of Classical Architecture. By Herbert Langford Warren. 8vo. Illustrated from documents and original drawings. Macmillan Co., New York.

This posthumous volume, published from manuscript left at the time of his death by Professor Warren, is an inspiring and scholarly contribution to architectural history, and makes us regret the more keenly that he could not have lived to carry out his plan of writing a history on a large scale which should trace the development of architecture in its relation to civilization, and should join with the historical narration the stimulating analysis of fundamental and universal forms. In this volume are traced beginnings in Egypt, Mesopotamia, Persia, the Ægean, and Greece.

More than half of the book is given to the discussion of the development of architecture in Greece, giving a very complete and comparative analysis of the development of the Doric and Ionic orders. The Introduction by Professor Fiske Kimball, of the University of Virginia, contains a fitting tribute to the high place Mr. Warren held in the profession, both as a teacher and a practising architect. The following words from one of the author's essays presents his own ideals of practice, and may well express the aspirations of every member of the profession:

"We cannot, if we would, escape the influence of all the art of the past which is brought to our doors and, as it were, thrust into our hands. Our choice lies simply between really knowing it and using it wisely in the fulness of knowledge, or knowing it only superficially and misusing and misapplying it ignorantly. . . . We must seek to combine scholarship with artistic impulse and enthusiasm, must seek to give that impulse and enthusiasm the sure basis of knowledge. For the support which the architect of the past received from tradition we must substitute scholarship. Not the scholarship which is concerned with facts merely, with archæological study of outward forms; but the scholarship concerned with principles, which studies the art of the great epochs of the past in order to understand if possible those fundamental qualities which made it great, which penetrates to the meaning of the forms used, which analyzes and compares for the purpose of gaining inspiration, in order that it may create by following consciously the principles which are seen to have been followed unconsciously in the great art of the past, developing if possible by degrees a tradition of what is best in all past forms, because it understands what to take and what to modify in order to meet the conditions of the present."

Books and Catalogues Received

"As Manufactured in Wrought Steel" and "Buildings You Have Seen." From the Stanley Works, New Britain, Conn.

"Brick, How to Build and Estimate." Illustrated. A presentation of facts for prospective owners of brick houses and a manual of construction data on brickwork for contractors and builders. By William Carver. The Common-Brick Manufacturers Association of America. 111 West Washington Street, Chicago.

"Proposed Building Zones for Newark." Tentative report of the Commission on Building Districts and Restrictions.

"American Greenhouses and Gardens." With drawings in black-and-white and colors. American Greenhouse Mfg. Co., New York and Chicago.

"The Industrial Building Book." Compiled by Charles F. Dingman. A book of practical and suggestive value based on actual work and figures of costs. Flynt Building and Construction Co., Palmer, Mass.

Annual of the School of Architecture. Columbia University for 1918. The university announces that there is promise of a greatly increased enrolment in both the School of Architecture and the Extension Teaching course for 1919–20.

Latin Tiles, an illustrated catalogue from Gladding, McBean & Co., San Francisco, is an admirable example of good taste in its cover design and its illustrations.

Announcements

George A. Fuller Co. announces that Colonel W. A. Starrett has joined the company's organization and will serve as vice-president and director.

The Arden Gallery, 599 Fifth Avenue, Scribner Building, announces the twenty-first annual exhibition of the American Society of Miniature Painters and of Durant Faience, November 24 until December 31, 1919.

The firm of Charles H. Higgins, architects and engineers, wishes to announce that Captain Joseph R. Greenwood, having recently received his discharge from the army, has renewed his association with the firm, which was interrupted during the war.

Mr. Henry C. Millott, of Sandusky, Ohio, announces that Mr. Harold Parker has become associated with him for the practice of architecture under the name of Millott & Parker.

Chester E. Wolfley and Arthur G. Ehil announce the formation of a partnership for the practice of architecture, to be known as Wolfley & Ehil, architects. Their offices will be located at 610 Stewart Building, Rockford, Illinois. After December 1 they will be pleased to receive manufacturers' catalogues and samples.

Mr. Donald C. Bollard announces the opening of his office, for the practice of architecture, at 303 McCague Building, Omaha, Nebraska. Manufacturers' catalogues requested.

Keffer & Jones, of Des Moines, Iowa, having outgrown their quarters in the Hubbell Building, are now located at 204 Masonic Temple.

William E. Haugaard announces the opening of offices at 185 Madison Avenue, New York City, for the practice of architecture. Charles H. Mills, architect, of Wilmington, Del., associate. Manufacturers' catalogues desired.

Mann & MacNeille, architects and construction engineers, New York City, announce the opening of a branch office in the Book Building, Detroit, Mich. The Detroit office has been opened to facilitate the work of this organization in industrial housing, city planning, municipal expansion, general architectural design and construction throughout the Middle West.

Mr. Alfred Bossom wishes to announce that he has removed his architectural offices to the top floor of Number 680 Fifth Avenue, New York City.

We sincerely regret that the name of the artist who made the drawings accompanying the article on the O. Henry Hotel was omitted. They were especially drawn by Mr. Howard E. Watkins, whose skill as a designer and draftsman is widely known to the profession.